

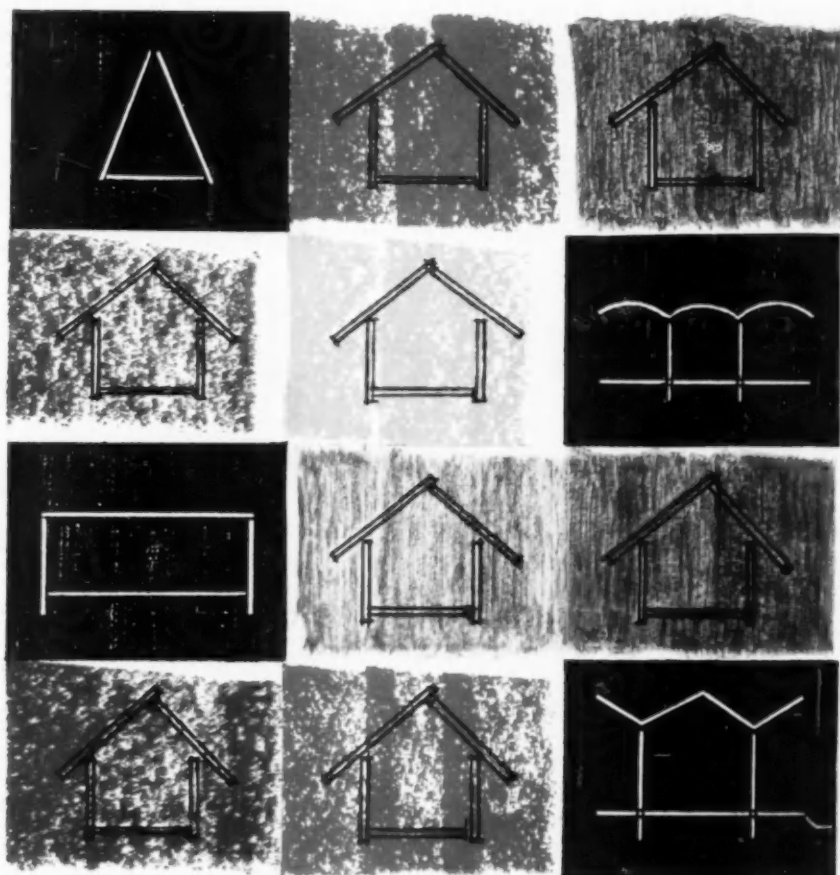


A · I · A

January 1960

Journal

OF THE AMERICAN INSTITUTE OF ARCHITECTS



THE ARCHITECT AND THE HOMEBUILDER

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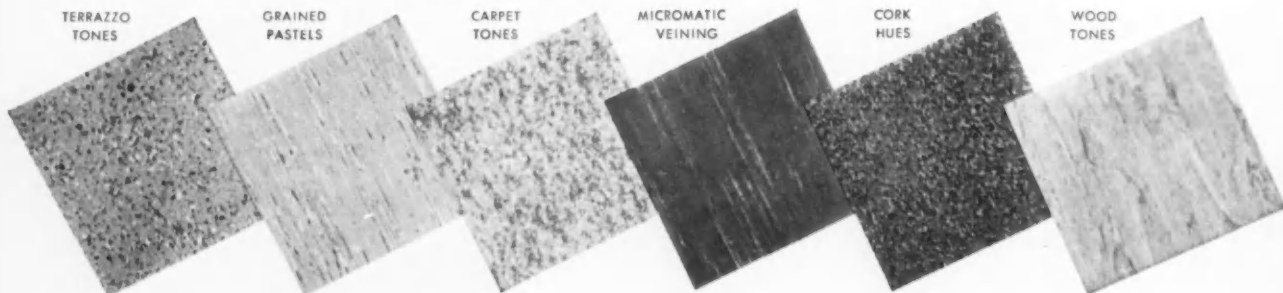
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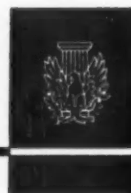
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THE COVER

The design is by Edward H. Fickett, AIA, of Los Angeles, the versatile chairman of the AIA Committee on the Home Building Industry.



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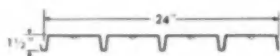
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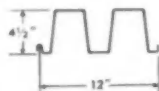
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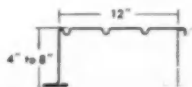
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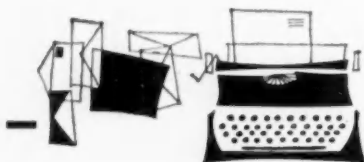
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L E T T E R S

Nostalgia

EDITOR, *Journal of the AIA*:

Reading over the report (May '59) of Mr. Robert P. Burns after his first visit to England, I am belatedly moved to observe that Mr. Burns, architecturally, fell in love; and I hope as he went further in his travels that he fell in love again and again.

More than fifteen years ago I wrote an article for the *Journal* asking why nobody (except, now I think of it, Frank Lloyd Wright) took any fun in architecture any more. But I ask more seriously now, what about LOVE — and I am both old enough and semi-retired enough to ask it without blushing.

The generation of architects who were my youthful heroes enjoyed both the fun and the love (though Ralph Adams Cram may have omitted the fun) and I think especially of my own "maitre" Thomas Hastings, for in everything he did he combined the two.

A fully trained architect should be able to design in almost any style, for I think of him basically as an artist: but he cannot do this without understanding and, no matter what his learning, he cannot have this without Love. We dreamed of and even designed megahyaline skyscrapers when I was a student, but they too were thought of with Love—which is something not applicable to the new experiments: admiration and awe are quite a different matter.

So it is nice to read about a young man falling in love-at-first-sight, just as I did almost forty years ago—even if it is with what some flip people might call an old courtesan.

EDWARD STEESE, AIA
Scarsdale, New York

6

School Costs

EDITOR, *Journal of the AIA*:

In recent years the citizens of this country in cooperation with architects have succeeded in the production of efficient and economical school buildings. As a matter of fact, research by the American Association of School Administrators shows that our people are getting more out of the money they spend for this purpose than for nearly any other expenditures they may make. It is true that tremendous increases in total expenditures

for school buildings have been made each year for the past several years. The increases, however, have not been increases in relative costs per unit but increases due to burgeoning enrollments. Because of this many people have concluded that the costs of school buildings are unrealistically high. Because the new buildings are beautiful, as well as functional, other folks have falsely raised the charge that school buildings are extravagant. The facts indicate that such is not the case.

A brief examination of the situation shows that during the past twenty years the costs of school buildings have increased 150 per cent, as compared to an increase for all building of 210 per cent. Specific comparisons are available for anyone who wishes to have the information.

The component cost increases having to do with the rise in school costs as taken from research of the AASA are as follows:

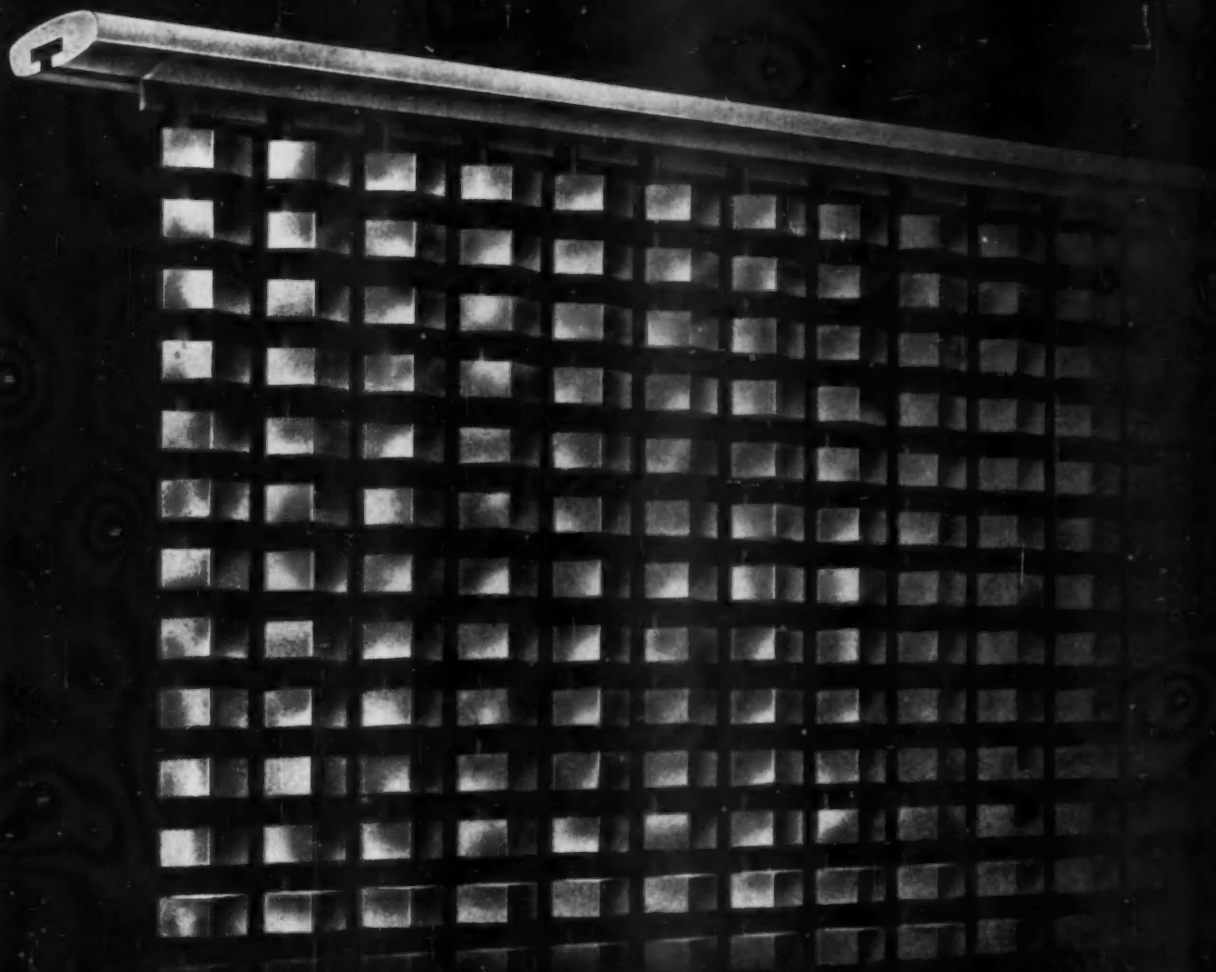
- 1 Structural steel has increased 215 per cent
- 2 Face brick has increased 200 per cent
- 3 Common labor has increased 330 per cent
- 4 Skilled labor has increased 220 per cent
- 5 Materials and components for construction, a widely used construction cost index, has increased 200 per cent.

So, we can see that in reality school building construction has shown the result of surprising economy. Most of this credit must go to architects, school board members, lay citizens, teachers and school administrators. Many non-essentials have been trimmed off. Apparently, a good job has been done.

Unfortunately, architects and school administrators have done a very inadequate job of telling this story to the people. We spend a lot of time telling each other about all of this work and to a degree this is good. I am writing today, however, to suggest that The American Institute of Architects encourage its far-flung membership to write articles on this subject for *popular lay magazines*. I believe school administrators should join you in this project. If we fail to do this the void will be filled by other people, most of whom have an axe to grind.

We have done a good job; now, let's tell people about it.

LOREN F. KLAUS
Superintendent of Schools
Le Roy, Illinois



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LETTERS

EDITOR, *Journal of the AIA*:

The AIA Book Supplement is a grand idea. I liked Ralph Walker's appreciation of the inside and outside of books; I liked Bennett's plea that we should read everything; and I liked Purves' analysis of architects' reading habits. But perhaps the most appealing to me was the editor's own article, "The Autobiography of a Love Affair." It really should have been at the beginning; here is a man bubbling with a desire to share his enthusiasm for books and with the ability to fire others to the same end.

I would have liked to have seen more of this sort of plea. Not only do architects not read Greek tragedies, they do not read architectural books. The pithy subjects represented in The First Annual Book Review could hardly inspire them to do so. I was grieved to see that *not one* book published by the two major American architectural publishing houses—Reinhold or Dodge—was represented.

On another tangent, the October RIBA Journal contains a review of Karl Baur's *Mit Büchern Wohnen*—how to live with books, where to put them. Could the editor of the *AIA Journal* expound for us sometime on the way he forms his library and how he keeps his books? As a large collector myself, I run into all sorts of difficulties in categorizing volumes. If one categorizes *Subjects*, one is apt to get *one* big book with hundreds of small ones and they do not fit very well. If one collects by *sizes*, the volumes are hard to find. If one arranges the books by *authors* it is extremely difficult because many architectural books do not have one.

JEFFREY ELLIS ARONIN, AIA
New York, New York

Bouquets

EDITOR, *Journal of the AIA*:

Let me add my voice to the growing multitude who have been congratulating you on the impressive improvements visible in the *AIA Journal*.

I was particularly pleased to see the supplement on architectural books and reading in general.

Thank you.

ROBERT MONTGOMERY
Assistant Professor
Washington University
Saint Louis, Missouri

Architects: Stewart & Richardson, A.I.A.



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NEWS

Architects' Week in Delaware

► The Delaware Chapter recently completed a five-week program aimed at bringing architecture more sharply into focus for the public, taking place from September 25 through November 1. The first week was proclaimed "Architects' Week" by both the Governor of Delaware and the Mayor of Wilmington. The Delaware Art Center in Wilmington featured an exhibition entitled "The Purpose of Architecture," developed by the chapter.

President John Noble Richards, FAIA, was the principal speaker at a dinner formally opening the exhibit, and other nationally-known architectural figures spoke to various governmental, educational and professional groups. Other special events held at the Art Center included a Career Day for students; Government Day, to which members of the Legislature and other officials were invited; Industrial Day, for the representatives of local industry; and an Awards Day, during which the chapter presented awards to an artist and a contractor for outstanding contributions to architecture in Delaware.

More than a hundred chapter members, under the direction of Chairman Samuel Homsey, gave their time to arranging the exhibits, which consisted of drawings, photographs, models, samples of building materials, furniture, fabrics and sculpture. The first position of the exhibit was designated "Meet Mr Architect," and was devoted to

describing the education, training and practical experience of the architect. One corner of the room was set up as a typical architect's office, and on one wall the step-by-step development of the Art Center itself was traced with preliminary sketches, blueprints, bidding documents and progress photographs.



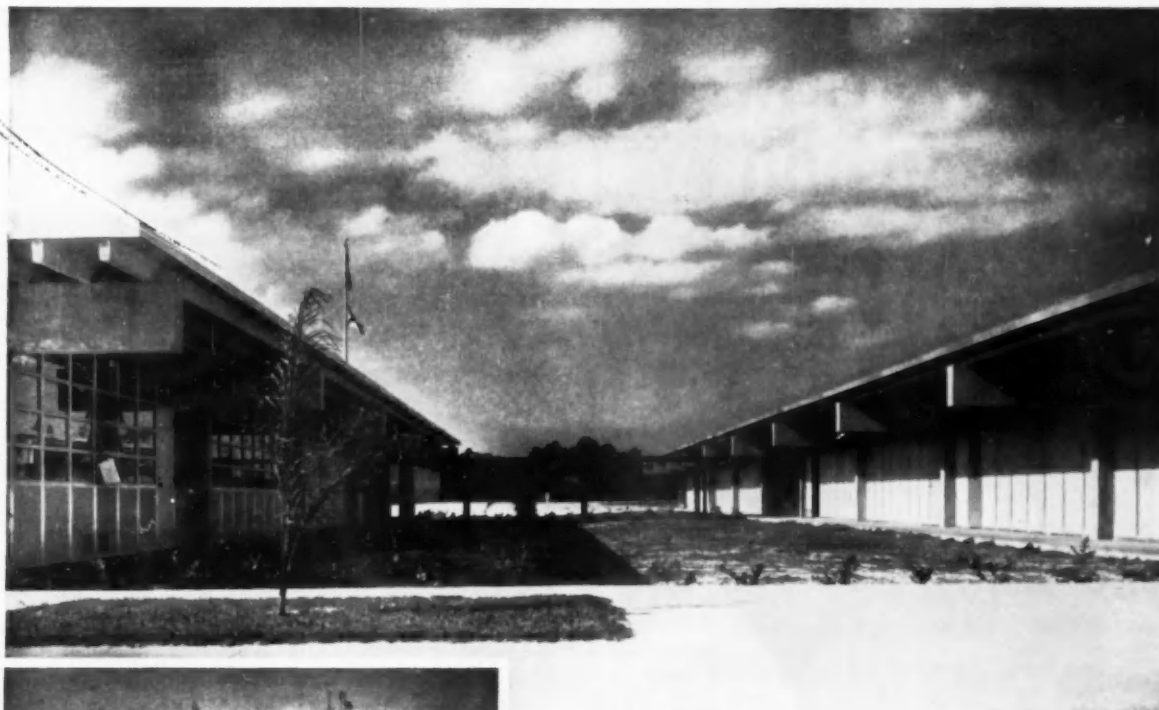
Photo at top: Model School—Among a number of models used in exhibition was this one, displayed with photographs to illustrate new Brandywine Senior High School project, north of Wilmington. Photo at bottom: First portion of exhibition is devoted to exhibits depicting the architect's background in education, experience and practical training.

Mr Architect's Office—A corner of one exhibition room is set up like an architect's office.



A second phase of the exhibit featured photographs and models of projects designed by chapter members, illustrating the theme, "The Purpose of Architecture." The success of the entire project has encouraged the directors of the chapter to plan to send the exhibit to other parts of the state. ◀

ANOTHER PRESTRESSED CONCRETE STRUCTURE



Normandy Elementary School, Jacksonville, Florida.
Architects: George Ryad Fisher, A.I.A. and Harry E. Burns, Jr., A.I.A. Contractors for 4 schools: 1) McMains Construction Co., Jacksonville. 2) East Coast Construction Co., Jacksonville. 3) Bay Construction Co., Norfolk, Va. 4) Wm. S. Smith Construction Co., Jacksonville. Prestressed Concrete Fabricator: Capitol Concrete Co., Prestress Div., Jacksonville.

New Prestressed Concrete Florida Elementary School Wins Design Award

**Low completed cost prompts School Board
to build 3 additional schools of same design**

The greatest single requirement for the Duval County elementary school was economy of construction. In close order came fireproofness and ease and economy of maintenance.

The structure is approximately 35,360 sq ft in area and contains some 39,000 sq ft of prestressed Double T roof slabs. Over-all, the school represents about 300,000 cu ft at the contract price of \$297,000; the cost per sq ft being \$8.40. That's the cost benefit . . . there are others.

At the Sarasota regional conference of the American Institute of Architects in 1958, only one school was recognized for an award among various types of buildings from four states. This was the school.


Further, the \$8.40 cost per sq ft, together with the fire-proof and maintenance-free character of the building, so pleased the School Board that it has seen fit to build it, with slight modifications, on three additional sites.

You see how the success of prestressed concrete repeats itself? This local acceptance of prestressed concrete is being

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MORE NEWS

The National Cultural Center

► Plans for the proposed National Cultural Center on the banks of the Potomac were unveiled at a press showing on November 20th by Secretary Arthur S. Flemming, Chairman of the



Everything is enclosed beneath the one great roof except the stage of the opera and the translucent dome of the Grand Salon. The restaurant and terraces open out on to the river.

Board of Trustees, and architect Edward D. Stone, FAIA. Mr. Flemming said, "The completed Cultural Center will be a new symbol of America's greatness . . . a true national home for the performing arts . . . a home to delight and honor each of its 177 million American owners."

Mr. Stone presented the renderings showing the design and explained them in some detail. The site, which is being provided by Congressional action, is approximately ten acres. Under one great roof, the building will contain an opera house, a concert hall, a theater, two smaller auditoriums, a Grand Salon, a restaurant and all necessary related facilities. Parking for a thousand cars will be provided under the structure. The architect estimates its cost as \$61 million, which the committee expects to raise by public subscriptions from all over the land.

The three principal major spaces will be entered from the Grand Salon, which will also serve as a promenade for theater- and opera-goers, and for ceremonial functions such as the Inaugural Ball. The opera house will seat from 3,500 to 4,000 persons, with stage, lighting and

The Grand Salon—The stair case to the opera house is in the center, that to the concert hall on the left and to the theater on the right. The colors will be red and gold, against a white background, to carry on the tradition of richness and elegance.



Membrane fireproofing: a re-examination

acoustical tile
offers rated
fire protection

significant savings
in time and cost

additional advantages

For years, membrane fireproofing has been the standard method of attaining low-cost fire protection in floor-ceiling assemblies. For example, where one-hour or two-hour construction was required—and an acoustical ceiling was wanted—most specifications called for mineral fiber acoustical tile cemented to either a lath and plaster or gypsum board membrane. The acoustical ceiling tile alone could not offer rated fire protection to the structural members in the assembly.

Now a new method of membrane fireproofing, Armstrong Acoustical Fire Guard, eliminates the need for intermediate fire protection between the suspended tile ceiling and the structural floor above. Acoustical Fire Guard is the first acoustical ceiling tile to offer rated fire protection to structural steel. Floor-ceiling assemblies using Acoustical Fire Guard as *the only protective element* beneath the structural floor have received one-, two-, and four-hour ratings from Underwriters' Laboratories, Inc.

Because Acoustical Fire Guard eliminates the need for additional fire protection above the suspended ceiling, it offers significant savings in construction time and cost. It is installed in a completely "dry" operation; there are no delays of the kind caused by "wet" work. This has already enabled many general contractors to save three to six weeks' construction time.

Through elimination of materials and labor, Acoustical Fire Guard can mean savings of up to 30¢ per square foot, depending upon locale, building design, type of fire protection being considered, and type of alternative acoustical ceiling being considered.

There are many instances when Acoustical Fire Guard ceilings will provide greater fire protection than would be the case with alternative methods. In such cases, this additional protection will usually be recognized in the form of lower fire insurance rates—year after year—on the building and its contents.

Acoustical Fire Guard offers unlimited accessibility to pipes, ducts, and electrical fixtures above the acoustical ceiling. Its acoustical efficiency is built in at the factory and does not depend upon the skill of the man who installs it. And it is an interior finish that requires no job painting after it is installed.

Acoustical Fire Guard has been chosen for millions of square feet of fire-retardant ceilings in commercial, institutional, educational, and industrial buildings across the country.

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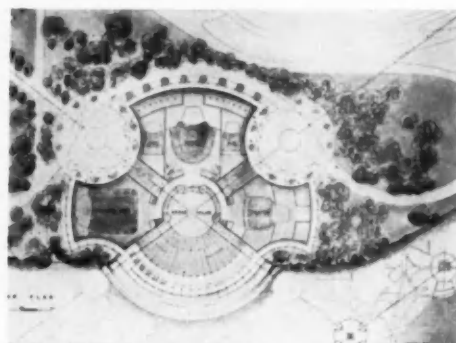


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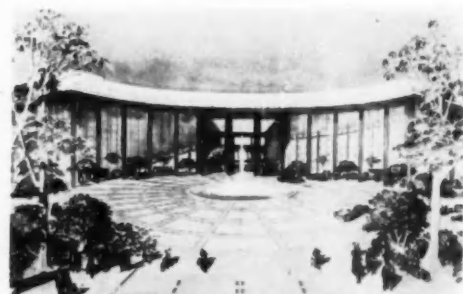
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MORE NEWS

technical facilities of the latest design. The concert hall will seat 3,000, and will be specially designed for symphony orchestras, bands and choral groups. The theater will have flexible seating arrangements, with capacities ranging from 1,000 to 1,800 seats, which will be achieved by entering the theater from the sides so that the rear of the auditorium can be closed off for the presentation of the more intimate type of drama. One of the smaller auditoriums will seat 400 to 500, and the other 800 to 1,000. Both will be suitable for chamber music, lectures and recitals. They will also be available as meeting places for associations and organizations engaged in educational and cultural activities.




New Hampshire Avenue comes into the circle on the left, and the traffic of Potomac Parkway is to be re-routed around the building. The entire width of the structure is about 900 feet.



Through traffic will wheel around the near side of the circle; traffic stopping at the Center will turn in toward the building. The passage to the Grand Salon will be roofed but open at the end.

The Grand Salon, which will tie the entire group of functions together, will be approximately 180 feet in diameter and seventy-five feet high. It will seat as many as 6,000 people. There will be grand staircases leading to the upper levels, and it will be treated with great elegance, as befits the heart of the nation's cultural activities. There will be space above the main floor areas for offices, broadcasting studios, rehearsal halls, etc. ◀



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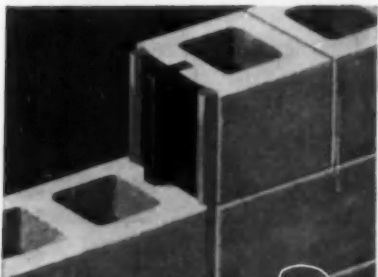
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Two engineered products that meet a need. Dur-o-wal reinforcement, shown above, and Rapid Control Joints, below. Weatherproof neoprene flanges on the latter flex with the joint, simplify the caulking problem.





The Octagon Gallery has a new look.

The first exhibit in the remodelled display rooms at AIA's Washington, D. C., headquarters is "Federal Buildings 1960," shown above. Designed by Nicholas Satterlee, AIA, the new, uncluttered exhibition space harmonizes with the existing architecture of the historic building. The display units can be combined in various ways to give different arrangements

in the rooms—a spine in the center space or a simple line-up before the open wall spaces or windows. The poles are adjustable to the ceiling and can be taken down and stored when necessary. Small models can be shown on suspended shelves between the poles. For variety, signs or mobiles may be attached to the display units. Mrs. Alice G. Korff, Gallery Curator, discusses the AIA Exhibition program on page 148.

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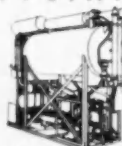
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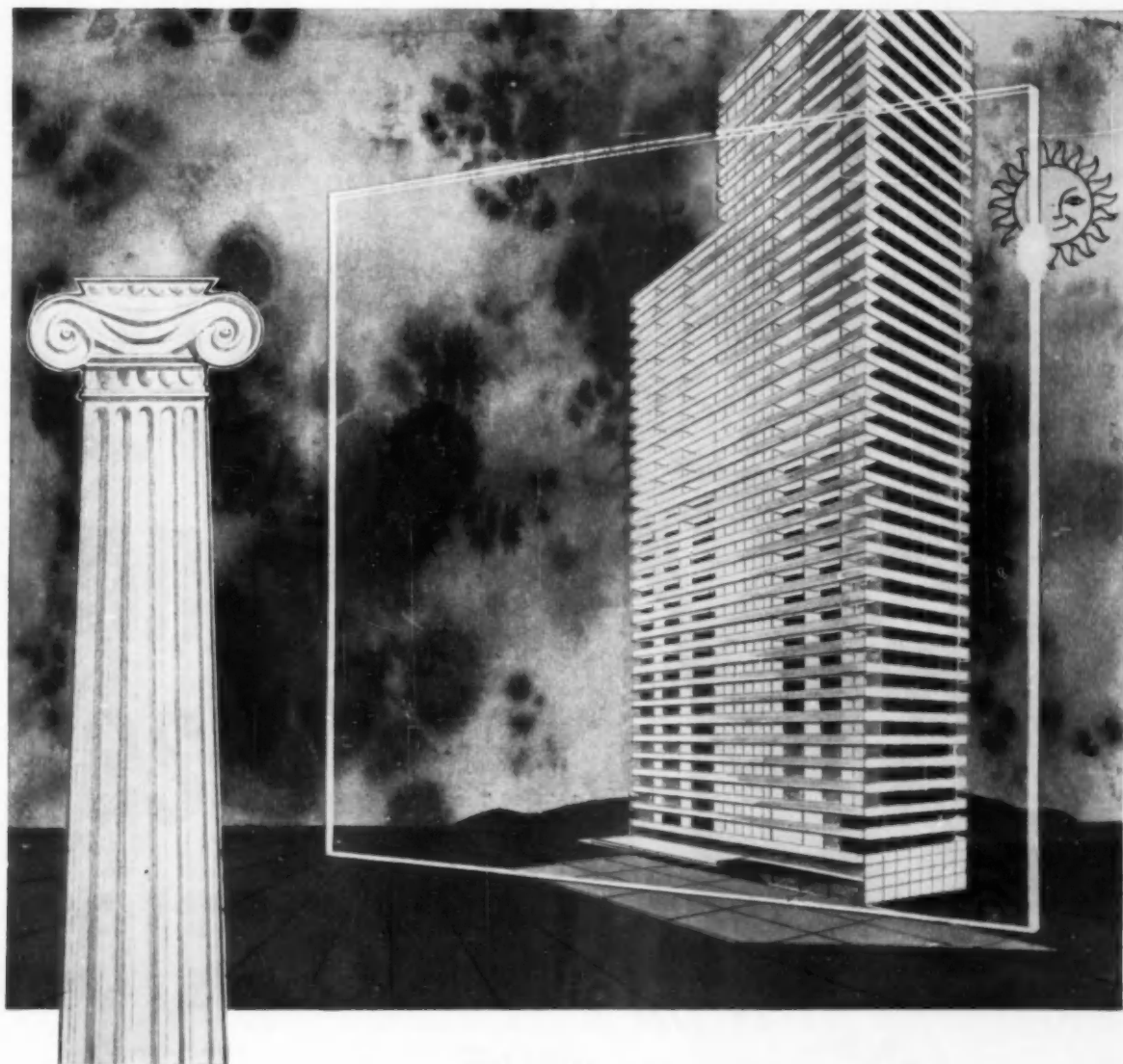
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Glass—the practical beauty

Every architect knows it—but we think it bears repeating. Glass is not just a structural material and it's not just a decorating medium. In creative applications, it can be an inspired combination of both.

Glass is inherently beautiful. There is no structural part of a building—from the doors to the walls to the roof—that can't be enhanced in some way by glass. But what makes it *practical* is the

fact that its durability and weather-resistance enable it to *remain* beautiful and free of maintenance problems for the life of the building.

The Architectural Representatives of Pittsburgh Plate Glass Company are available to help you solve your problems concerning the use of glass in your architectural designs. This service is reserved for architects. See *Sweet's Architectural File*—Sections 3e, 7a, 13e, 16a, 16d, 21.



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SWEETS 1960 ARCHITECTURAL FILE



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A.I.A. FILE NO. 30-J

MASTIC TILE DIVISION • The RUBEROID Co.

announces the second

\$25,000 annual design competition

to stimulate a major contribution to

**MORE EFFECTIVE UTILIZATION
OF SCHOOL PLANT —**

**EDUCATION for youth and adult
RECREATION for all the family**

TURN PAGE FOR DETAILS

awards

OPEN TO ALL CONTESTANTS

Grand prize	\$10,000.00
2nd prize	5,000.00
3rd prize	2,500.00
6 Merit Awards of	500.00

STUDENTS ONLY

1st prize	\$ 2,000.00
2nd prize	1,000.00
3rd prize	500.00
4 Merit Awards of	250.00

eligibility

OPEN TO:

Registered architects of the U.S.A.

Architectural assistants to registered architects of U.S.A.

Students of schools which are members or associate members of Collegiate School of Architecture as of 1959/60.

NOTE: Special awards for students not successful in general competition. Students winning a major award will not be considered for student awards.

Endorsed by the National Institute for Architectural Education. (Subject to approval of submission of this program.)

jury

HENRY L. KAMPHOEFFNER,
Dean, School of Design, North Carolina
State College, Raleigh, North Carolina

DR. HARRY JAMES CARMAN,
Dean Emeritus, Columbia College, N. Y.

WILLIAM W. CAUDILL, AIA,
Houston, Texas

JOHN LYON REID, FAIA,
San Francisco, California

EBERLE M. SMITH, AIA,
Detroit, Michigan

Professional Adviser
A. GORDON LORIMER, AIA



MASTIC TILE DIVISION

\$25,000 annual

THE FIRST ANNUAL COMPETITION had as its premise "BETTER LIVING FOR THE MIDDLE INCOME FAMILY". A quarter section site of 160 acres adjacent to a new industrial park was chosen as typical of sites now being developed throughout the country as tract housing.

The architectural profession was given the challenge of developing this property as "A PLACE TO LIVE AND REAR A FAMILY". Many significant solutions were presented which, it is hoped, will result in improvement of tract development.

The Second Annual Competition extends the challenge to the architectural profession for the next important element of family living—"EDUCATION FOR YOUTH AND ADULT—RECREATION FOR ALL THE FAMILY".

Many communities are struggling with the problem of bond issues successively added to the community tax burden as the continued pressure of educational needs forces the sometime reluctant community into action. These educational taxes added to the taxes required for other needed and desirable community facilities, such as parks and recreation, cumulate in an economic drain on the middle income house owner. There is therefore a daily growing problem of solving the overall community needs on a long range basis of physical planning and financial funding.

Last year's winning design provided for neighborhood community facilities at its core with safe pedestrian access. The local school authority has felt that the 614 dwelling units provided warrant an elementary school at the core of the development and has taken independent steps to achieve this. However, Junior High School, High School and Community College facilities will eventually be needed for the large residential growth in the surrounding territory.

While short of the ideal and limited by existing controlling factors a definite attempt has been made by the Municipal Government to establish suitable zoning conditions for future growth. Through a collaborative effort of community and industry, a generous tract of land has been made tentatively available for community education and recreation needs subject to demonstration of its suitability and financial feasibility under a long range bonding program.

Hot controversy and concern exists in the community as to the validity of current educational techniques and the need for a stiffer educational approach to match the technical demands of the space age. The rising cost of modern educational plants has been very strongly challenged. It has been decided to retain a firm of architects to prepare a feasibility study of the use of the above tract of land for education and active and passive recreation, and to submit preliminary plans for the first projected

element of construction, a Junior High School.

You are the hypothetical architect

THIS IS THE PROGRAM: Overall development of the 280 acre site with integration of the following facilities:

1. Junior High School for 2,000 students.
2. High School for 2,500 students.
3. Community College (2 years) for 1,200 students.
4. Active and passive recreation for a rapidly growing satellite community providing greatest flexibility and sustaining revenue potential within the limitations of available land.
5. Adult use of educational and associate athletic facilities to the greatest extent possible without sacrifice of prime function.

The existing county road will be restricted for local access but the substantial volume of traffic engendered by the proposed community facilities shall be considered, including the problem of safe access to the site from the rapidly growing residential area to the southwest.

The overall study need be developed only to the extent necessary to demonstrate general site planning and functional integration or juxtaposition of facilities for maximum usage at minimum overall cost.

The Junior High School shall be developed in sufficient detail as to demonstrate educational objectives, plan organization, architectural character and general type of construction. Anticipated construction cost shall be given as a lump sum for the building only, excluding site development beyond a line five (5) feet from the building. Cost per square foot of gross area and cost per pupil shall be stated.

To permit uniformity of cost factors the local conditions shall be considered the U.S. Average of 535, as published in Engineering News Record Building Cost Index, listed below.

A typewritten analysis stating the educational objectives considered and developed in the solution shall be incorporated in the submission together with any other pertinent data which the Contestant may wish to present for the consideration of the Jury.

"I believe that only through education can we meet the many challenges and problems of today. How to provide the necessary physical facilities, without sacrificing educational quality and imposing too-heavy tax burdens, is a problem weighing heavily on every community. It is hoped that this competition will stimulate practical, workable solutions to this great challenge and develop a closer collaboration between the architect, educator and private citizen."

SEYMOUR MILSTEIN, President

MASTIC TILE DIVISION • THE RUBEROID CO.

STATISTICS AND CLIMATOLOGY

BUILDING COST INDEX DEC. 25, 1958 ENGINEERING NEWS RECORD

Atlanta	472	Los Angeles	530
Baltimore	542	Minneapolis	553
Birmingham	493	New Orleans	494
Boston	542	New York	609
Chicago	562	Philadelphia	569
Cincinnati	515	Pittsburgh	595
Cleveland	533	St. Louis	563
Dallas	469	San Francisco	533
Denver	532	Seattle	484
Detroit	574	Montreal	449
Kansas City	533	Toronto	472

AVERAGE TEMPERATURE IN °F.

	MAX.	MIN.
January	42	7
July	88	68
Extremes	109	17
PREVAILING WINDS		
January	NE	
July	NW	
Average	12 mph	

HUMIDITY — 8 AM

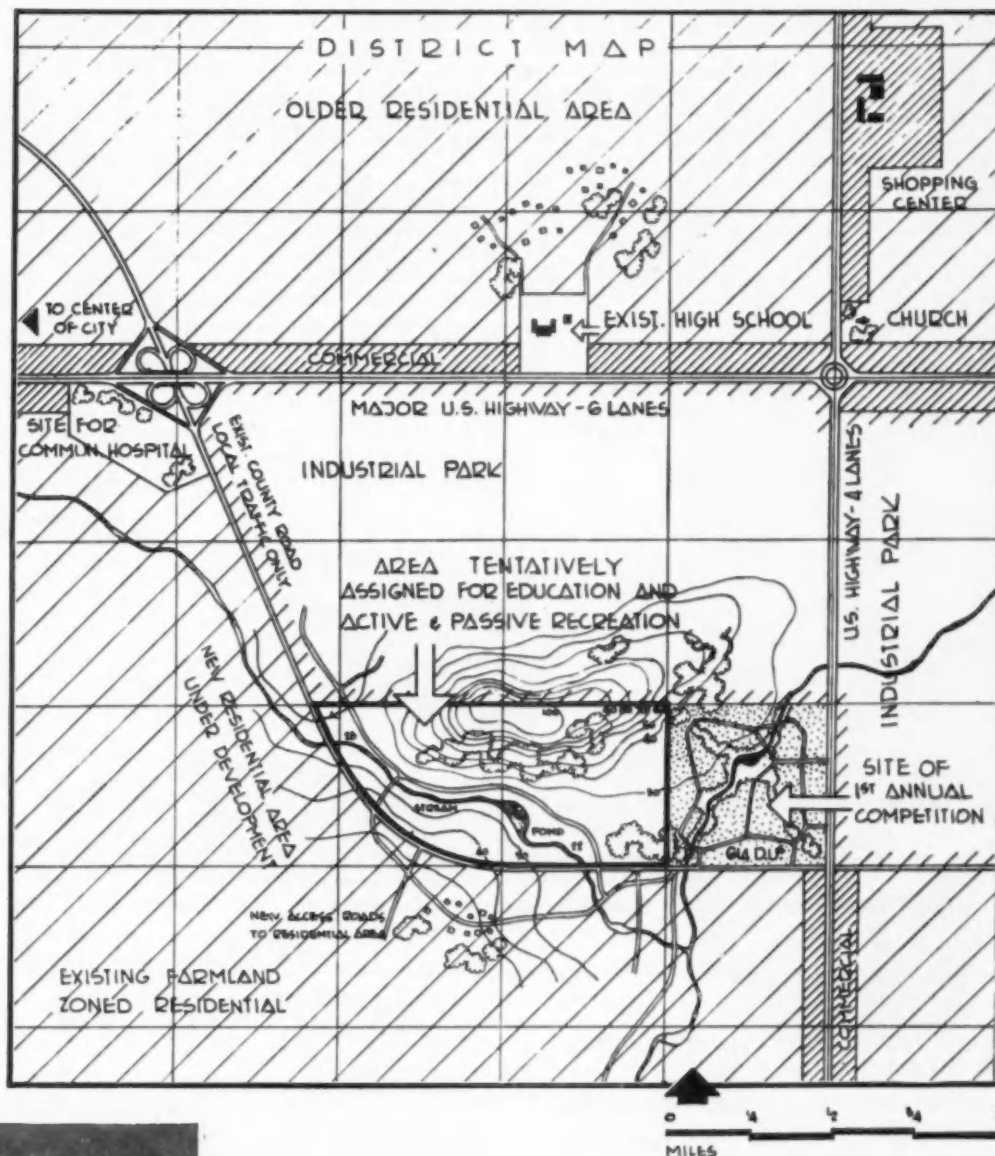
January	80%
July	75%
Normal	50%

PRECIPITATION

Normal	39.34"	Annual
Sunshine Frequency	45%	
Daytime Cloudiness	50-55%	
Cloudy Days	40%	
Winter Sunshine	30%	
Summer Sunshine	65%	
Dense Fog	5%	

• The RUBEROID Co.

design competition



MASTIC TILE DIVISION • The RUBEROID Co.

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method of submission

EACH SUBMISSION SHALL consist of not more than three 30x40 illustration boards, used vertically, of sufficient weight to permit handling and display. Drawings shall be in black and white suitable for reproduction. For uniformity in judging, the overall site plan shall be drawn at the scale of 1" equals 200'. Typewritten information, schedules, etc. may be applied to front of illustration boards. There shall be no projecting lettering or other materials. Each board shall have a thin card mounted face inward on the back with gummed tape, bearing the Contestant's name (or names, if a joint submission), address, and school or office affiliation; a statement signed by the Contestant(s) that this particular submission has not been previously submitted in any other competition; the name of the individual or individuals to whom award check is to be made payable and address of the individual to whom it is to be mailed if award is made for the submission. If the contestant is an undergraduate student he will so indicate on the back of the submission.

Submissions shall be addressed to Mastic Tile Division, The Ruberoid Co. and delivered to The Architectural League of New York, 115 East 40th Street, New York 16, New York, not later than 12 Midnight on June 30, 1960. Submissions will be returned by prepaid registered mail wherever possible. However, the sponsor cannot assume responsibility for loss or damage to entries. Exhibit, reproduction and publication rights are reserved by the

sponsor for a period of one year after award.

Submissions will be numbered in order of receipt and each will be anonymous until the Jury has judged the entries which are identified by number only. The Jury shall have full and final power in the selection of all entries for award. By taking part in this program the Contestant(s) agree(s) that he shall have and make no claim against the Jury, any member thereof, the sponsor, the endorsing institutions, on account of anything that may be done or omitted to be done, except for awards made to him. The mailing of the check payable in the amount awarded to the name or names given on the original entry shall constitute full payment of the award.

Notification of awards to entrants will be made by the sponsor as soon as practicable after judging is completed, and payment of award as above shall also be made as soon as practicable.

The sponsor has not set any restrictive conditions as to materials, method of construction, or design classification.

It is hoped that the results of this competition will awaken community interest toward long range growth planning.

NOTE:

It is felt that the problem of distribution of answers to questions may cause inequities among contestants. Therefore the contestants should rest on their own judgment of the problem as stated.



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ENTRANTS ARE REQUESTED TO REGISTER PRIOR TO MAY 15, 1960

MASTIC TILE DIVISION • The RUBEROID Co.
P.O. Box 128, Vails Gate, N. Y.

☐ I intend to enter the Second Annual Design Competition.

Please send me _____ additional copies of the program for the design competition.

Name _____

Firm or School _____

Address _____ City _____ Zone _____ State _____

ADDITIONAL ENTRIES ARE AVAILABLE FROM THE MASTIC TILE DIVISION • THE RUBEROID CO., THEIR REPRESENTATIVES AND DISTRIBUTORS.

APPROVED BY THE COMMITTEE ON COMPETITIONS OF THE AMERICAN INSTITUTE OF ARCHITECTS



Turn new ideas into profits...

Register Now! There's still time to sign up for the 16th Annual NAHB Convention and Exposition, January 17-21. But don't wait! Based on registrations already received, a record attendance is expected. Over 35,000 people will see exhibits filling more than 800 spaces at the three exhibit areas—in the Hilton and Sherman Hotels and the Chicago Coliseum. You, too, will want to be in on this once-a-year opportunity to study

new products, the latest building techniques, successful selling methods—new ideas in every phase of the industry. Make your plans now to be in Chicago January 17-21. For advance hotel reservations, send your registration request and check (\$15 for men, \$10 for ladies) direct to your local association or to the address below. Please include your business classification and date of arrival in Chicago. *Do it today!*



NATIONAL ASSOCIATION OF HOME BUILDERS

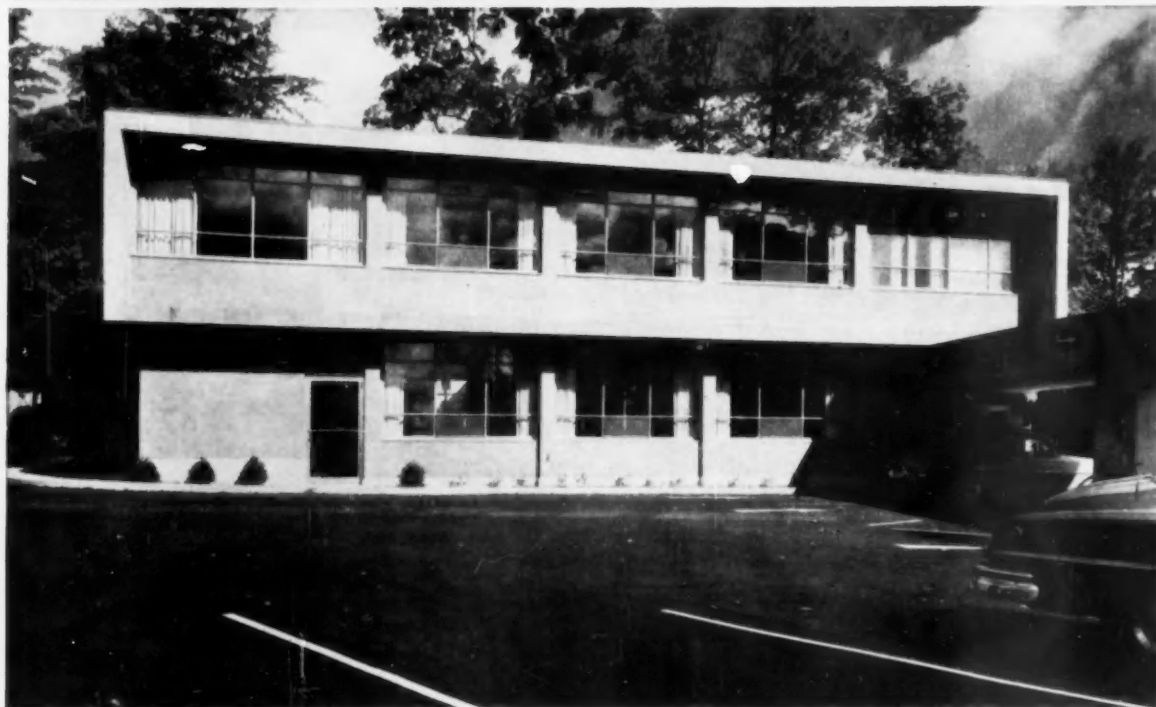
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General Contractors, Warren Construction Co., Inc.

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In this branch bank the architects were successful in creating a building of distinction while coping with many complications demanded by the automotive age: outdoors, a teller's wicket accessible from the driver's seat of a customer's car yet protected from the weather, adjacent parking space for other customers; indoors, light and ventilation, quiet atmosphere and pleasant surroundings on a busy commercial site.

For this building Hope's Pressed Steel Subframes

were fabricated to the architects' designs. The windows installed in them were Hope's Heavy Intermediate Casements. Their flexibility and the freedom given by them in layout is of great help in the building's success. The owner's satisfaction with its charm and convenience is enhanced by the assurance that Hope's Window operation is dependable for the life of the building.

Hope's engineering and planning assistance is always available to you without obligation.

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THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

The Architect and the Homebuilder



Clyde Hare

► For too long, too many architects have felt that working with the speculative homebuilder—or “merchant builder,” if you like—was something they could not possibly engage in. Their reasons have been various: “Can’t bother with it, too busy on big stuff.” “Can’t make any money at it.” “It’s beneath my dignity as a professional to make the compromises necessary to work with a builder.”

► For too long, too many homebuilders have felt that working with an architect was something they too could not possibly do. Also for a variety of reasons: “Architects are too impractical, full of fancy ideas that cost money.” “I can’t afford an architect. The costs on my houses have to be pared down to the very bone.” “The architect doesn’t know our production methods; we must have everything under our direct control.”

► None of these reasons are valid. They are all pure poppycock. The purpose of this special issue of the *AIA Journal*, which was suggested by the AIA Committee on the Home Building Industry and prepared with the assistance of its Chairman, is to show by demonstration and the written word many cases of highly successful collaboration between good architects and good homebuilders, with financial and esthetic success for both.

► To the architect we say: “As the architect takes his place today as the leader of the design professions, as he claims responsibility for ‘Total Design,’ it is imperative that he assume the task of designing *all* the nation’s homes, not just the choicest and most expensive.”

► To the homebuilder we say: “As the leader in one of the nation’s greatest industries, as the man who is responsible for the building of the vast suburban areas now being so widely criticized as ‘dreary, monotonous, no privacy—future slums,’ it is imperative that the homebuilder employ the finest talents that are available to him.”

► The necessary talents and skills are widely available. They must be brought together so the American people may benefit from them—the *best* in community planning, the *best* in home design, the *best* in home construction, and through those the *best* in living. It’s the American ideal.

COOPERATION . . . THE

► A primary responsibility of The American Institute of Architects is to work for better cooperation and coordination of all facets of the building industry.

This is particularly vital in homebuilding, which so strongly sets the stage for the everyday living pattern of all American families.

For this reason, I am particularly pleased that this issue of the *Journal* is dedicated to the homebuilders of America. We are taking another important step toward acquainting every builder and architect with the progressive plans for cooperation already under discussion by our national organizations and of the need for even greater efforts on the regional and local scenes.

Both architects and homebuilders have a grave responsibility to the American public, and I fear these obligations have not always been fulfilled.

This issue of the *Journal* is only one of many encouraging signs that we are becoming more conscious of our public responsibilities. The National Housing Center in Washington, for example, is in my opinion a vital institution doing an outstanding public relations job. Its displays demonstrate to the prospective home owner what goes into a house, how it is put together and what he can reasonably expect in the future.

People today are no longer satisfied with "just a house." They want, expect, and have every right to the best possible home at the lowest possible cost. They must be made aware that they can get good design. A number of our outstanding architects and builders have proven they can pool their abilities and build better homes that are financially, as well as esthetically, rewarding. If the architect's ability to make maximum use of every inch of space is so necessary in an office, school or factory, how much more essential it is in the home. Space is our most precious commodity.

On behalf of The American Institute of Architects, I welcome you to the pages of this special issue. Some of the most intelligent, conscientious and successful leaders of the National Association of Home Builders and of the AIA have spent considerable time and effort to define our mutual problems and suggest ways in which we might solve them.

These are pages filled with new and aggressive ideas. They are well worth your thoughtful consideration. ◀



By

John Noble

Richards

F.A.I.A.

President

The American Institute

of

Architects





KEY TO BETTER HOMES

By

Carl T.
Mitnick

President

The National Association

of

Home Builders



► At long last architects and builders have taken some substantial cooperative steps forward toward their common goal of providing better homes for the American citizenry. They are finding their work mirrored in each other's operations.

The many and varied activities and projects undertaken jointly by both groups in the past year are producing new understandings of common problems.

During the past year, as President of NAHB, I have become increasingly aware of the progress which is being made. I should like to express my appreciation of the highly cooperative attitude shown by The American Institute of Architects and its members.

I am particularly appreciative of our joint programs in modular standards, design competitions, design clinics, legal studies, and many other projects.

There is, however, an even greater challenge to be met in the immediate decade ahead. The economists of both our associations are not too far apart in their predictions of the future. They are convinced, as I am, that there will be a greater demand for new homes than ever before in history. But, there is more to this challenge. As our patterns of life change and our standards of living increase, our homes must be designed to be adequate to fulfill these changing requirements. If we are to have a housing complex that we can point to with pride, our homes and our towns will have to be carefully planned and designed. If we are to provide for this increased number, we must learn to produce better quality houses at prices which the mass of Americans can afford.

To my mind, the joint cooperative efforts and activities of groups such as the AIA and the NAHB are the logical and expeditious means of providing the stimuli. Our present projects, while necessary to continue, are not enough. I would like to see our groups get together quite often on a local level—builder meets the architect and architect meets the builder. A mutual understanding of each other's assets and problems would do much for the community. I think it is time the leaders of our groups discussed and decided a favorable fee structure that would be agreeable to all. The evidence that an agreement can be reached is encouraged by several private architect-builder contracts that are working most satisfactorily. There is an untold amount of good

that can be accomplished by national and local participation in building code matters. This has been a problem now too long tolerated, and if construction is to move along with technology, we must have codes that protect us but do not hamper us. I would like to think of our people getting study groups interested in interpreting and presenting design trends in the various sections of our country.

As we begin to use new materials and new methods of construction, I am sure we will not find it altogether desirable to maintain all of the present features that style a home. The experiences of other industries should teach us that promotion, education, and salesmanship will

be necessary to get some of the newer ideas across to the average home owner or prospective home owner. Local groups of architects and builders can develop studies that will result in such promotional and educational implements. Certainly the planning and the appearance aspects of the community will be greatly benefited.

There are more projects that can be undertaken, I am sure. Each will add immeasurably to a job that can be rewarding if approached by those who care enough to work cooperatively and tirelessly. This has been the attitude of our groups—the AIA and the NAHB, and I shall look forward to continuing projects and progress in housing our great American populace. ◀

Man with a mission . . .



► Carl T. Mitnick is President of the National Association of Home Builders, the more than 40,000-member trade association.

Mr. Mitnick is a highly successful New Jersey homebuilder who has had thirty-five years experience in his industry. One of his most personally satisfying enterprises is building homes for senior citizens.

The big, gray-thatched builder is an expert on virtually every phase of the homebuilding industry. Mr. Mitnick has held various offices in the NAHB and was head of its legislative division before his election to the presidency.

He is a leader in the effort to end the ups and downs of available mortgage money. He advocates establishment of a central mortgage reserve bank to provide an even stable flow of investment funds that will enable more American families to have the new homes they want. He is also a strong advocate of research aimed at finding ways to produce better homes at less cost.

Mr. Mitnick himself said he wants to see the NAHB "accelerate the program of research houses to test new design standards, new construction techniques and the use of new and promising materials."

Mitnick, who has traveled extensively in his work for the NAHB, was a member of the US homebuilder delegation which toured housing projects in fourteen Russian cities in 1955. He is married and has two grown children.

Patterns for Progress

EDWARD H. FICKETT, AIA

Chairman,

AIA Committee on the

Homebuilding Industry

► Ten years ago I had the privilege of participating in an NAHB national convention. Since that time I have been continually impressed with the progress being made by the organization to apprise its membership of the great opportunity that exists in working with architects. New design and land planning theories and new homebuilding techniques can only be achieved in this manner.

To those who may not be familiar with architects and the principles of planning, it is important to understand what he stands for in our way of life. Currently entire cities are being formed that are the basis of a new freedom in style and concept. New airports are under construction which make all existing systems and modes of transportation obsolete. Satellite shopping centers are being constructed which will make entire downtown areas replan or become outmoded. With all these effects on our everyday way of life the one last field not truly representative of our best effort is the land planning and development of housing.

Jones and Emmons, Anshen and Allen, Alfred Parker, Herman York and I are but a few of the architects who have continually proven the importance of the architect and the role he must play in the homebuilding industry. If over-all planning and design improvement is to continue it can only do so by a full understanding of the problem. Some architects do fully understand the problem. Others are acutely aware of the role they must play in planning communities of the future. Subordination, land development, utilities, financing, FHA, VA, merchandising and *profit* are not all foreign words to architects. It has been necessary for the architect to concern himself with the over-all processes of the homebuilding industry so as to continue to understand and work with developers and builders.

With the continuing problems of land development, with increased field costs and with merchandising and advertising playing an ever-increasing role, the architect's opportunity for expression becomes even more important. Actually, now is the time for the architect to truly show what can be done from the standpoint of industrial design and land planning. Second- and third-time buyers are certainly more discriminating than the buyer who was strictly buying "terms." The days of fast speculation in land and housing are disappearing.

In our building design patterns for the future there must be a concerted effort to understand the possibilities in new materials and new building techniques. New approaches to the manufacturing of component parts and the field erection of the same must obviously play an increasing role in home construction if we are to build better homes without continually increasing the costs. Manufacturers have done little in their approach towards product and material design. For the main part, individual builders and developers have done even less. The NAHB through its Research Institute has continually strived and increased its efforts toward a better understanding of new products and construction techniques. However, there must be renewed effort on the part of the individual architect and contractor if we are to make rapid strides in a new direction.

Many architects with their increased knowledge of industrial design have proven to manufacturers and builders that there are many possible cost-saving approaches to homebuilding that can be integrated into the design and construction of our new homes. To this end The American Institute of Architects and the NAHB are continually carrying on seminars and clinics for their members in attempts to better advise and educate them.

This year saw the first design clinic jointly sponsored by NAHB and AIA. Stimulating lectures on product design and planning, lectures on human environment, and good talks by eminent architects, professors, planners and industrial designers made this first joint clinic at the University of Florida in Gainesville a meeting not soon to be forgotten by those few of us fortunate enough to attend. The surprising thing is that there were almost *twice* as many architects in attendance as there were homebuilders. I sincerely hope this is indicative of the renewed interest of the architects in the homebuilding industry. However, I certainly feel the more prominent builders and developers are missing opportunities in advancing and bettering their product by not attending or sending other members of their organizations to such meetings.

Each year there is a newly stimulated crop of builders who return to their offices after such meetings with renewed vitality and ideas. Unfortunately, the new concepts and theories seldom seem to get beyond the talking stage. In the coming year I sincerely hope the many fruitful seminars and research projects being carried forth by our two great organizations will serve as a stimulus for individual research programs by a great many more developers. Certainly projects of this type are sorely needed to bring about major advancements in the homebuilding industry. The costs of such programs are negligible compared to the amazing results that can be forthcoming. The advertising and merchandising aspects alone in many cases are of sufficient import to warrant this type of expenditure. Certainly it may be difficult for the small homebuilder to anticipate a large expenditure of funds towards research, but not for the large developers. The larger developers and



Commenting on a residential plan are left to right: Professor Lendrum, University of Florida; R. W. Allen, St. Petersburg builder; and Edward H. Fickett

builders must certainly be the leaders if they are to remain at the top.

A few years ago it was very difficult to find architects who understood the merchant builders' problems, the techniques of repetitive construction and the economies obtained through teamwork and collaboration. The architect of today is not an impractical dreamer who knows nothing about cost. In most parts of the country there are capable architects working as a part of a builder team who realize that homebuilding is a profitable and satisfying design field. Certainly today builders who want to offer the public superior and quality values in housing must learn to retain professional architects and land planners to collaborate with them closely. A teamwork formula is the one ingredient necessary to produce houses of value and distinction. The subject of architecture may be controversial with some homebuilders, but the continued success of architect-builder teams should be evidence of a genuine and growing tendency toward larger profits due mainly to better design. If it were possible to write a formula for success in development housing I am sure it would not be a rigid equation, but a flexible "Pattern for Progress." ◀



Architecture for the Homebuilder

BY FRANCIS D. LETHBRIDGE, AIA

► Of the million or more houses built each year, the greatest number by far are single-family, detached houses, and the majority of these are built by merchant builders. Despite the old lament that "things aren't built as good as they used to be," the quality of construction of most low cost, or average cost, houses today is without doubt much better than it used to be, thanks largely to the widespread influence of FHA's Minimum Property Requirements, the development of better and more rigidly controlled building products, an impressive program of research and development by both producers and builders, and an active exchange of ideas and information within the building industry. Improvement in the average quality of inexpensive construction is all to the good, but another end result of the same influences is the increased standardization of housing design and construction, which may be considered good, or bad, depending upon one's point of view. Building products, construction techniques, house plans and exterior decoration are virtually the same, with only minor local variations, from one side of the country to the other.

It is more the pity, with all this wealth of knowledge, materials and money, that so much of the development housing being built today is so badly planned, particularly with respect to site planning, and so trite and ugly in appearance. We would

Mr Lethbridge's comments are particularly interesting because his firm, Keyes, Lethbridge & Condon, of Washington, D. C., successfully combines a fair volume of tract builders' work with a large general practice, including work for the FBO of the State Department—something so many "wise" architects say can't be done. All houses illustrated were designed by Keyes, Lethbridge and Condon.

like to believe that these problems would vanish if all homebuilders were to retain architects, but in truth there is likely to be very little change for the better unless the nature and quality of the architectural services are better than the minimum that most builders seem to want, and get.

The relatively small amount of thoroughly good tract housing design, compared to the vast amount of residential construction as a whole, might lead us to expect some improvement by simply exposing more builders and more architects to arguments for, and examples of, better planning, but any important and lasting changes in the present state of affairs will not be brought about by a more intensive campaign of good design propaganda. Most developers and builders seem to be concerned primarily with the technical problems of the construction and marketing of houses at a profit. There are some, but not enough, who take



Pine Spring, Fairfax County, Virginia. One and two-level houses ranging in price from \$15,000 to \$22,000. Luria Brothers, Builders. 1951-52



View of Patio, one-level house. Pine Spring, Virginia



Interior Detail, Pine Spring, Fairfax County, Virginia, 1951

a more professional attitude toward land development and house construction, and accept a responsibility to the community as a whole for the quality and ultimate value of their work. On the other side of the coin, there are too few architects who understand the requirements of successful design for merchant builders, have the training and experience to do it well, and have the professional integrity to do it as it should be done, or not at all.

It is true, of course, that a successful builder must be successful financially, or he will quickly become a bankrupt builder; high principles and standards in themselves are not enough to insure a continuing operation that will reflect credit upon himself and his community. It is possible, nevertheless, to do a creditable job at a profit, and that kind of building program is likely to be carried out by a responsible builder who works with an architect who is equally concerned with the final results of the planning and construction.

Many architects, and architectural firms, in this country who are capable of doing first-rate work for homebuilders feel that it is an area of architectural service best left to the younger architects starting out in the profession, or to those architects who continue over the years to carry on a small practice of a purely residential nature. There is a need first, perhaps, for a greater number of enlightened clients before there is any great need for more architects who are prepared and willing to devote their time to the problems of community and residential design. I can speak only of our own experience and observation in this field, but feel that it is not only neglected, but perhaps greatly underestimated by many architects.

As one phase of a general architectural practice, our office does land planning, house design and supervision of construction for merchant builders. We have also continued to design a limited number of houses for individual clients each year. Fortunately this work is not our only source of professional income, for we could scarcely maintain our office in its present form were it not for a reasonably steady flow of larger governmental, institutional and commercial projects. We do, nevertheless, choose to continue to engage in the design of tract housing and other residential projects for a number of reasons, some of which may be of interest to other architects who are doing this same sort of work and wonder why, or to those who are not interested in this type of work and believe they know why.

The most important of these reasons might be briefly listed as follows:

1 We are interested in houses and housing, believe it to be an important part of architectural practice, and enjoy doing the work.

2 For the past ten years we have always had one or more good clients who wanted to work with us, who believed in the same general standards of architecture and construction that we would like to aim at in this field, and who were willing and able to pay the professional fees we must charge to do the planning as it should and must be done.

3 We feel that this type of architectural practice pays many indirect benefits that are far out of proportion to the amount of direct profits that may be gleaned from the work.

4 Although this work is not generally lucrative in terms of architectural fees, we have often found it fills unprofitable gaps in our office work load, particularly when the builder client is able to make his development plans far enough in advance to allow us to schedule at least part of his work at our own convenience.

There can scarcely be any argument that this phase of planning and architecture is not important. The explosive growth of the suburban areas surrounding almost all of the larger cities in the country is one of the most serious and challenging problems that we face today. Intelligent, comprehensive land planning and zoning regulations are a first requirement under any circumstances, but the detailed design of the individual communities can never be successfully legislated or controlled by negative means.

Furthermore, no increase in the importance of prefabrication of houses, the mass production of factory-made components, or technological advances in site fabrication will alter to any great degree the most important phases of community design, any more than the mass production of automobiles has solved the transportation problem. The appearance and quality of the individual houses may be improved in many instances, and their cost may be proportionally less than it is now, but the most important work will still have to be done by the local developers and architects who plan the project, lay out the lots, parks, facilities, streets and utilities, design or select the houses or their components, and carry through the project and control its quality from beginning to completion.

Many builders make their most serious errors in planning before they even consider retaining an architect, for site planning is an integral part



Flint Hill, Bethesda, Maryland. Forty-five houses on half-acre lots, \$32,000 to \$38,000. Bennett Construction Company, 1958-59



View of Living Room, Flint Hill, Maryland



View of Kitchen from Terrace, Flint Hill, Maryland



Robert C. Lautman

Exterior Detail. Houses at Kenwood Park, Maryland. Bennett Construction Company, 1956



Robert C. Lautman

Interior Detail. Entrance and Stair. Kenwood Park, Maryland

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of the project design, and should never be separated from the total architectural responsibility. Ideally, the architect should be working with his builder client for a year or more in advance of the start of construction on any project, helping him in the selection of the land for development as part of an unhurried land acquisition and planning program. The architectural character of the community, the projected size and cost of lots and

houses, and a detailed program of space and functional requirements are only a few of the things that should be carefully thought out in advance of site and unit design. It is only after a preliminary study of the site that the architect can effectively decide what types of houses are required to best fit the land, and it is only after the preliminary designs have been made for these house types and their variations that the site plan can be worked out in detail to best suit the houses. The design and costs of streets and utilities must, of course, be borne in mind at every stage of the design, but their ultimate function is to serve the houses, which in turn are designed for the people who will live in them, and not the other way around. We do not mean to imply by the foregoing that the services of a good site or civil engineer are unnecessary. Quite the contrary. Our practice has been to work closely with a professional civil engineer at every step of the way. His advice is carefully considered in the step-by-step progression of the site planning, and the final lot computations and street and utility designs are prepared by the civil engineer, based upon the project development plan prepared by the architect's office.

Needless to say, it is always desirable for an architect to receive adequate professional fees in order to be able to afford to do his work properly and thoroughly, and, even at best, architectural fees for tract housing design are likely to remain scarcely adequate (unless the project is a very large one), until that day when builders receive more incentive to pay higher professional planning fees in the form of higher appraisals for better planned projects. We feel that a satisfactory approach to this problem may be a four-part contract between the builder and architect which covers site planning, house design, repeat use of plans and continued supervisory services, and other additional supplemental architectural work that may arise as the project progresses, such as modification of plans to a particular purchaser's needs.

A good "stock" plan is better than a bad plan, or no plan at all, but is not in any way a substitute for comprehensive and continuing architectural services. The architect who does not perform adequate services and who does not set a standard of adequate fees is to be pitied as well as condemned, for he will find that "cut-rate" architecture in this field is never likely to attract the type of client who is prepared to pay for a better job. Similarly, the architect who performs his work largely on a contingent fee basis is never

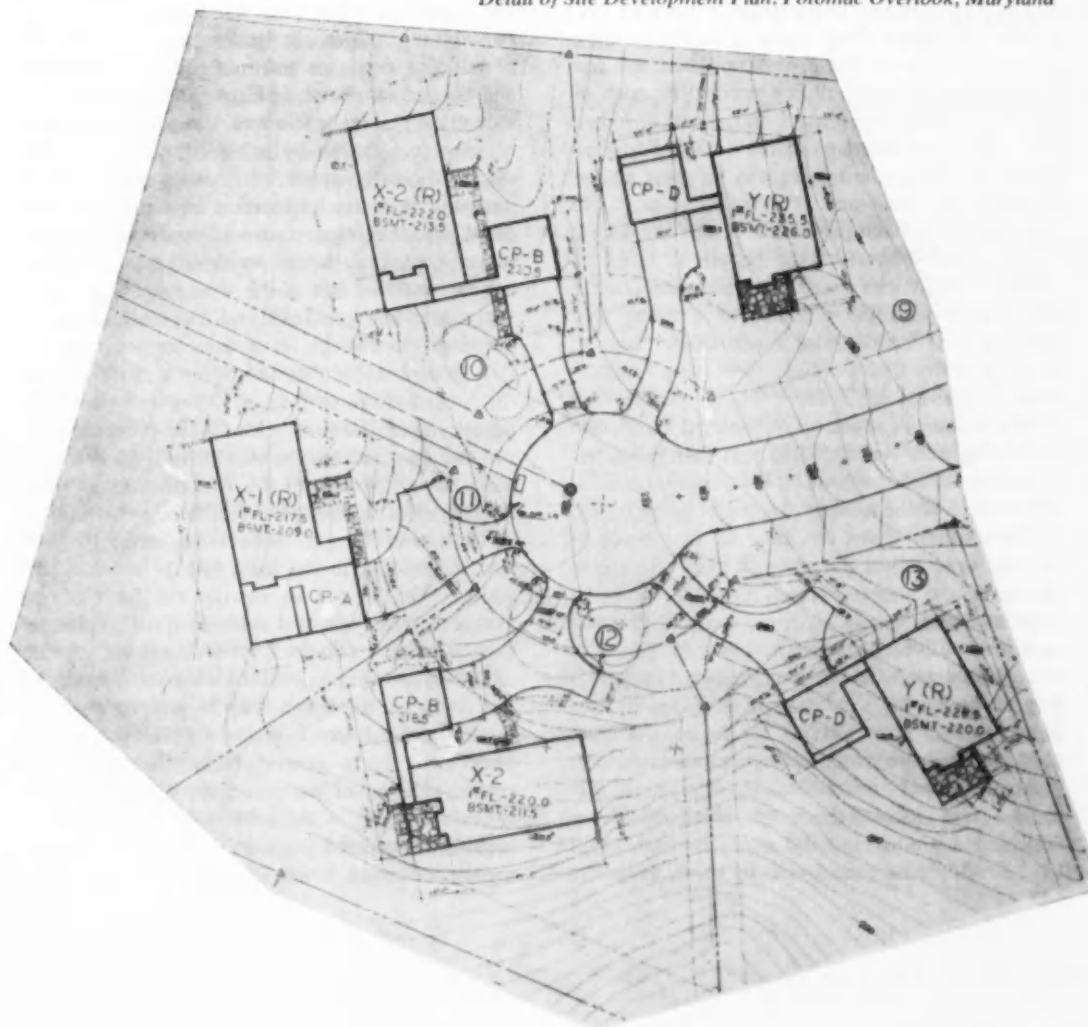
likely to develop a good professional relationship with his builder-client for present and future work. All of this might seem to suggest that few architectural firms are actually prepared to offer builders the type of professional services that they most need. It would also seem to indicate that there is a physical limit to the amount of effective work that can be done by any one firm, restricted necessarily by the number of man-hours per house required to assure adequate professional services. More architects engaged in this work, serving a limited number of builder-clients on a local, first-hand basis is the system most likely to produce the best results.

The indirect benefits that may accrue from an architectural practice providing services for homebuilders might be briefly suggested. One rather obvious possibility is that homebuilders sometimes build or invest in other types of buildings, such as apartments or shopping centers, and need an architect's help in planning such projects. Another is the fact that an architect who maintains a regu-

lar practice in this field is in a better position to qualify for work of a related nature, such as public housing, military housing, urban redevelopment, dormitory and apartment design, as well as research and development in the house construction industry. Good design is so rare, comparatively speaking, in speculative house construction, that any example of architectural merit will shine the more brightly against such a dim background.

To the younger architect intent upon establishing his own practice, it offers a particularly good opportunity, for builders are inclined to be a more adventurous lot than many other clients, more willing to take a chance on new ideas and new architects. The only word of caution on this score that might be offered to one embarking on this sort of work is not to underestimate its complexity. There is a real need for good undergraduate and post-graduate training in the field, for it is painful and sometimes costly to learn it all the hard way, by first-hand experience. ◀

Detail of Site Development Plan, Potomac Overlook, Maryland





Clyde Hare

Architecture and

► Homebuilding probably represents the largest slice of construction's annual dollar volume, and is near the largest single industry in the country. Its peculiarity is its fragmentation. There are few or no giants in homebuilding production such as exist in the automobile, steel and chemical industries. This is the dilemma of the homebuilding industry but also is the reason why so great an opportunity for talent and progress exist in it. No product of American productive genius arrests the attention and interest of the people as much as a home. The lives of many American families are preoccupied with the creation of a home that achieves their standards of environment, beauty, facilities and social prestige. Few people realize their objectives or desires. Many people buy homes because of necessity. A national frustration is growing over the widening gap that exists between the desire standard and the economic ability standard of the average American home buyer.

The solution seems obvious. All that needs to be done is to repeat the story of many American industries and products which results in increased value at lower cost. No industry has greater need or opportunity for technological gain in the realm of cost reduction than homebuilding. The reduction of profit, the squeezing of suppliers' prices has reached its limit. The further decrease of costs must come from technical advancement—from greater efficiencies in method and the use of material—from increased design efficiency—from enlightened use of land and site—from advanced land development techniques. In short, from the

industrialization and total integration of the entire process. Involved in this achievement must be the homebuilder, the banker, the manufacturer of building products and materials, the architect and the public official. In large single-management industries the integration of the above divisions of effort can be easily achieved with the result of an efficiently produced product. It would be unthinkable in the production of most manufactured products to proceed with a schematic drawing of the product with decision as to material use and method left to the workmen. Yet this is the way a home is built and this is the type of drawings the average home designer provides.

It is regrettable that the talent and training of the architectural profession is largely lost to the homebuilding industry, with all the potential stature and contribution that could be applied to this most important part of the American scene. The reluctance of the homebuilders to use the services of an architect quite often arises from the fact that in addition to the fee a rise in building cost results. This is not necessarily the fault of the architect. The lack of a system or set of production principles accepted by a significant portion of the homebuilding industry make it difficult for the architect to design with a production technique in mind which would be acceptable and understood on a general basis. Conversely the communication of the principles of efficient production existing in the homebuilding industry to architects has been poor. It is suggested that the architect become better acquainted with the par-

Homebuilding

ticular production system of his client. This will result in designs which will best complement the efficiencies of the system. The designer must give equal emphasis in his mind to method and production cost, along with his more familiar objectives, esthetics and functional design.

It seems as though all too often a mutually standoffish attitude exists between the architect and the homebuilder. To overcome this situation many things other than the actual design problem must become a part of the architect's thinking and concern. These have been touched on in the foregoing and might be summarized as follows:

1 Good design can be and must be profitable to the builder as well as to the architect.

2 More often than not the architect is associated with restrictive local community regulations which affect homebuilding design and production cost. An enlightened participation in the cause for better homes for less cost on a local community basis is a fertile area in which the architect can work.

3 Building codes and zoning regulations are often prisons of inflexibility which prevent the best elements of the homebuilding industry and architecture from joining in a real step forward. A sympathetic participation in this area by architects is essential.

4 Adequate community facilities are a necessity for sound residential growth. The sound and economical growth of a community is as important to the architect as it is to the builder and to the

BY ROBERT F. SCHMITT

A well-known homebuilder in Berea, Ohio, Mr Schmitt tells us that his firm works closely with a local firm of architects—so closely that they have become thoroughly familiar with the entire system of production developed by the Fred Schmitt Construction Company, and develop their working and detail drawings to meet the demands of this system, thus giving the builder "total control" of the entire operation.

community. Here again local sympathetic concern would help pave the way to improved relations.

If a point program can be stated it might be along the following lines:

I Local

1 Architects and builders must participate in each others' local association activities.

2 Builders and architects must jointly participate in local community zoning and code activities.

3 The architect must place as much emphasis on system and method and the relation of design to system as on esthetics and functional design. He must be an efficiency expert and a methods engineer, insofar as is necessary to design in accommodation to a system. This point cannot be emphasized too strongly and is probably the weakest link between builders and architects.

II National

1 The national organizations of architects and builders must continue in their program of liaison to promulgate and expand on the above points.

2 The schools of architecture must take formal recognition of homebuilding as a production specialty as well as a general part of architecture. An architect schooled in the latest techniques of homebuilding methods and material use would be in a better position to enter the design field for homes. ◀

Codes and

BY WARD V.

BUZZELL

Mr Buzzell has a Bachelor's degree

in Architecture from Clemson, and

at one time worked in the office

of the AIA's Regional Director

from New England, Alonzo

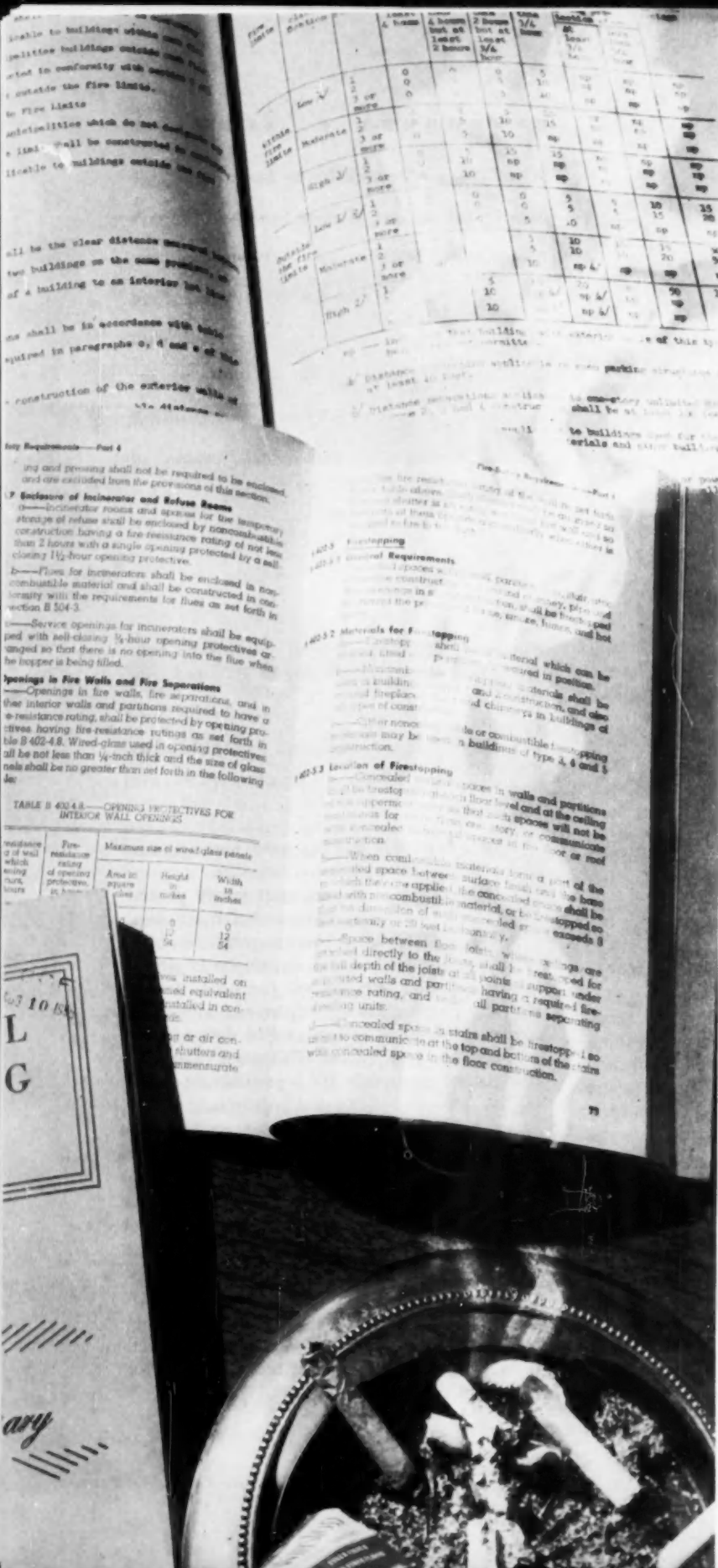
Harriman. At present he is

Assistant Director of NAHB's

Design and Construction Depart-

ment.

George Lehr



the Homebuilding Industry

► A code is defined by the dictionary as "a systematized body of law" and "a system of rules and regulations."

The dictionary does not say so, but codes can be good, and codes can be bad. Unfortunately, in the building industry the latter seems to be the case.

In an age of unlimited technological advancement, it is truly ironic that new materials, new techniques of construction are constantly being developed only to have their use held in abeyance because of outdated and outmoded building codes around the nation.

This has been frustrating to the building industry, but happily some progress lately has been made in educating the public, municipal governments, elected officials, and building inspection departments.

In the past two years more and more people have been made aware of the effects of restrictive and horse-and-buggy building codes than ever before.

Undoubtedly, articles appearing in the popular magazines are to be credited to a large extent with bringing the subject to the attention of the general public.

It is a story that has long needed telling. In the countless cities and towns across the United States, many of the codes were written and adopted fifteen, twenty, even fifty and seventy-five years ago. In these cases, the local governments were guilty of not keeping their ordinances abreast of the times. Articles were written about the officials of the building inspection departments, accusing them of being incompetent, old-fashioned, biased, and even corrupt. The codes were described as out of date, influenced by particular pressure groups, and of a specification type. The good that has resulted from all this can be measured by the recent activities to bring local codes up to date. In addition to having its attention drawn to outmoded building codes, the public learned of the various well-written codes produced by building

officials' organizations. These codes had existed but only a relatively small number of communities had accepted and adopted them. The so-called exposé of the existing building code situation resulted in an examination of these ordinances by many of our cities and towns. As a further result, new codes were adopted and some codes were revised to bring them up to date. In too few cases, the model or standard building codes, produced by building officials organizations, were adopted.

It was just prior to all this concern over building codes that the National Association of Home Builders became vitally interested in the state of building codes. It was becoming ever more apparent to the homebuilders that the newly-developed products and methods of construction were of no assistance in meeting the housing challenge since building codes, in general, did not permit their use. It was also discovered that it was not unusual for an area to have as many as fifteen and twenty different building codes, each with individual and differing requirements for the same thing. As the home buyer was moving more and more to suburbia, this problem was becoming more acute.

At this point, the NAHB Board of Directors set their Building Codes Committee into full swing to develop a positive program to alleviate the builders' problems. They started from the beginning and explored many avenues toward a construction program. The Committee now has swung into its third year of work, and in this relatively brief span of time, it has learned much and has tried several policy approaches. Naturally, some mistakes were made, but through these much was gained in the way of bringing about the present thinking of the Building Codes Committee.

A major effort is being made to promote the uniformity or standardization of building code requirements. There are cases, to illustrate with an extreme situation, where wood frame residential type construction, without masonry veneer, is prohibited in a town, and yet a neighboring town

(which could be across the street) allows this ordinary and typical method of construction. Certainly, it goes without saying that if a type of construction is adequate for the health and safety of one community, it is absurd to think the neighbor across the street needs more. Most common among the discrepancies among neighboring codes are the design tables for lumber and other structural materials, and the design loads for varying types and elements of construction. It seems only logical to accept the premise that a roof system tested and proven adequate for a given load in one community should also be adequate for adjacent communities. Yet, there are an untold number of building codes that vary with those of neighboring towns, outlawing such proven components as wood trusses, and also requiring designs based on different wind and snow loads, and even different dead loads. A remedy to this type of situation is the objective of the unification and standardization of code requirements the Building Codes Committee is working for.

To complement the unification program, and as a means of implementing the program, the Committee also promotes the philosophy of the performance type building code. It is admitted that a pure performance code would introduce an unwieldy number of new problems, but it is asserted that a building code based on a performance standard and only supplemented with specifications in extreme situations results in a desirable and workable building code. An example of the specifications this NAHB Committee is trying to discourage, is pointed out in numerous old plumbing codes that require either cast iron or wrought iron for the water supply and distribution system. It can clearly be seen that many widely accepted materials are excluded by such a requirement. On the other hand, a performance provision would allow a system of any material that delivers the water to the fixture without contamination, in sufficient volume, at the desired pressure, and without undue noise.

The NAHB Building Codes Committee took a very definite stand that it would not attempt to accomplish the objectives of uniform, performance type codes through the writing of its own residential or building code. It is felt that this is not a proper function of an organization such as NAHB. Rather, the approach is to promulgate educational and informative programs that would assist any city, town, or complex of communities which may desire to up-date its local codes. The Building Codes Committee and its NAHB staff are continually working on new and more effective

means for municipalities to review their present codes to enable the local officials to determine for themselves whether a new or revised code is necessary. There are six model or standard building and mechanical codes that NAHB recommends to a community for its adoption. These are the BASIC BUILDING CODE of the Building Officials Conference of America; the NATIONAL BUILDING CODE produced by the National Board of Fire Underwriters; the SOUTHERN STANDARD BUILDING CODE by the Southern Building Code Congress; the UNIFORM BUILDING CODE written by the International Conference of Building Officials; the NATIONAL ELECTRICAL CODE promulgated by the National Fire Protection Association; and the NATIONAL PLUMBING CODE, ASA A40.8, sponsored by the American Public Health Association and the American Society of Mechanical Engineers.

NAHB has membership in the BOCA, SBCC, and ICBO groups and constantly participates in their activities and code revisions meetings. This is also true of the NFPA. The staff of the Building Codes Committee serves as industry advisor to the committee presently revising the NATIONAL PLUMBING CODE. These codes, though not the most uniform in their contents, do approach the aspects of performance requirements. Most of the building codes are revised annually by the membership. These same codes cause tests and reports prepared by independent testing laboratories prior to approving new construction materials and techniques. They also provide training programs for building inspection officials. These code groups have been receptive to NAHB efforts in the field of building codes and have been cooperative with the Building Codes Committee. However, building codes do not pose problems to only the homeowner. Some of the greatest cost extravagances in large construction projects are due to excessive requirements of codes. It would be indeed interesting to learn of the number of projects that might have been kept within the building budget if the architects and engineers had been permitted to use modern codes. A recent NAHB study shows that costs can be reduced from \$35 to \$100 in a one thousand square foot home if the builder were allowed to make the plumbing installation according to the NATIONAL PLUMBING CODE. Can you imagine what this amount would run if applied to our modern schools and office buildings?

NAHB is pleased with the progress it is making, even if it is in the light of a few mistakes and at a slow pace. But, there is much remaining to be done, and this will need the combined efforts of all who are related to the building industry. ◀



Housing Research

BY LEONARD G. HAEGER, AIA

Mr Haeger, who lives in Princeton, New Jersey, is a Research Consultant. He here points out the great need for research in the building industry—and particularly in the field of homebuilding. The job must be done by the universities, he says, but it must be financed by the industry.

► The evidence of what can be accomplished by research is so apparent and well-known that it would seem ridiculous to do more than call attention to a few examples of achievements in several of America's great industries, as an introduction to an article intended to describe what is being done, what is not being done, and what should be done along this line by the largest industry in the nation—the housing industry.

Synthetic fabrics, household appliances, vehicles for space exploration, communication devices, the preservation and packaging of foods are just a few of the results of industrial research and product development programs. It should come as something of a shock to the buyer of houses, therefore, to contemplate the relatively tiny amount of progress that has been made in one of the three basic areas that touch human lives most closely—the area of shelter.

One might say that housing is still in the "horse and buggy" era when it is noted that dwellings are still produced mainly in the "craft" tradition, even though the materials used are produced by sub-industries in mechanized factories. Except for prefabricated houses (which comprise only 10% of houses built in this country), houses are still constructed by a laborious process of digging a hole in the ground, pouring footings, building up a foundation block by block, fitting walls and roofs together board by board and nail by nail, winding pipes, ducts and wires through joists and partitions in a labyrinthian maze, poking holes

in the product for access and ventilation, cluttering up interior walls with outlets for plugs, buttons to shut electricity off and on, weird or bothersome contraptions for giving light, etc. All of the processes with the hundreds of men involved, the months of time involved, and the endless intricacies of red tape involved for various inspections necessary for compliance with health and safety regulations also mean a high cost for the end product. The high cost of houses coupled with the huge demand has bred poor design, poor quality, and an inadequate solution of living problems.

Five major academic disciplines are included in housing research. If the broad definition of housing research can be called the study of the process through which man changes his environment, this, then, more specifically means a study first, of the physical and mechanical properties of materials and structures; second, economics—the study of costs and finance; third, the social sciences—how people live in houses and communities; fourth, the political sciences, involving both the physical and legal aspects of planning; and fifth, psychology

and physiology—the impact of the buildings on the mental and physical health of occupants. In no other field of research are the boundaries so wide, and none other has an equally potential influence on people as a whole.

Present-Day Research

Small amounts of housing research are being done by segments of the industry and related groups. A little is being done in schools and universities; a little by a few government agencies; some in organizations like The American Institute of Architects and the National Association of Home Builders; and circumscribed programs of product development and research are being carried out by some of the large manufacturers of building materials.

Almost from the beginning of their industries as such, manufacturers of building products have maintained large research and development programs—nearly always directed towards the improvement of existing products. Seldom are they concerned with them as related to or combined with products of another manufacturer, and seldom do they think of them in the context of a complete house. Only in the last year or so have a few companies begun to consider their product as an integral part of a room, that room as an integral part of a house, the house as an integral part of a piece of land, and that piece of land integrated into a neighborhood.

The AIA has an architectural research program under way but so far has not focused on housing as a separate subject category. The recent conference at Ann Arbor should do much to clarify AIA's objectives.

A modest housing research effort being undertaken by the NAHB Research Institute is devoted almost entirely to a study of the physical and mechanical properties of structures and the field testing of new materials. Very valuable, also, to housing research are their studies in the areas of housing economics, housing statistics and land planning.

The Building Research Advisory Board has carried on a series of specific studies performed under contract for the Architectural Standards Division of the Federal Housing Administration, but they are more of a staff compilation of the opinions of experts on specific problems than original research efforts.

The real core of housing research lies in the schools and colleges, but little has been done by the housing industry to stimulate their work. Most important among the institutions thus engaged are the Housing Research Center at Cornell, the Small

Homes Council at Illinois, and the schools of architecture at Massachusetts Institute of Technology, Rensselaer, Princeton, Florida and California. In these schools are dedicated housing researchers, sometimes social scientists, sometimes architects and engineers—carrying forward important work with inadequate support from builders and architects or from manufacturers. The total sum of all housing research expenditures in schools and colleges cannot possibly exceed a half-million dollars—for a \$15 billion industry!

Obviously what is necessary is an awareness of the great need for vast research efforts in housing; an understanding of the potential of housing research; and then the development of a process which would make use of the resources we already possess.

The BRI Program

During the past year, the Research Committee of the Building Research Institute (a part of the National Academy of Sciences—National Research Council) has developed and is beginning to implement a significant program which may well be what is needed to get building research, including housing research, off the ground. This program is divided into three parts: first, industry identification of problems; second, a method of stimulating actual research projects; and third, a system of housing documentation.

Part number one, the identification of industry problems, is a job which can be supported by architects, builders, manufacturers, and all participants in the housing process. Since identification is not limited to technical problems, BRI hopes ultimately to have a listing of social, economic, physiological, psychological and political problems as well as the purely technical.

Technical problems usually arise from the use of materials in combination—the classic example being roof failures. Here we have manufacturers of roofing materials, insulation, decking and sometimes interior skin materials involved in the end product of a roof—and all put together by others. When failures occur, it is most difficult to determine causes or draw conclusions from which future failures might be avoided.

A non-technical problem brought about by the project builder is the social and economic stratification of many of the new communities. This can result in grave social difficulties like inter-family maladjustments, teen-age delinquency, unhealthy political situations.

Another example of a non-technical nature arises from the increasing use of summer airconditioning. The airconditioned house provides sum-

mer comfort, but also poses questions of a physiological and psychological nature as yet unanswered. What is the effect of airconditioning on the health of the occupants? Are they, by and large, in better health? Are there fewer respiratory problems but more muscular and arthritic type ailments? Because of the airconditioned environment, will vacations be spent more frequently at home? If so, what effect will this have on the social activities and/or mental health of the family? These are all questions for the housing researcher.

Another problem is that of noise and its control. What is the effect of uncontrolled noise on the occupants of a home in terms of jangled nerves, family friction? And odor and its control—what does this mean to the occupants of a multi-story apartment structure? We know it affects living patterns, but how do we evaluate performance?

These latter are all examples of problems in the totally unexplored field of relating building materials and structures to human responses, and they illustrate most forcefully a long-standing contention of mine that houses are for *people*—not for architects, builders, bankers or materials producers.

Part number two in BRI's research program involves the stimulation of housing research proposals by university and college personnel at the graduate and professional level. The objective here is to provide a process through which housing research will become as important a subject in schools as the more glamorous kinds of research, a method for evaluating research proposals, and finally a scheme through which worthy research proposals may be financed. Actually, this facet simply recognizes the potential contribution of schools and universities and provides a mechanism through which projects can be described, organized, and the support necessary for their execution found. With the exception of the work of the small number of schools listed above, few are

interested in housing research; and it is essential that many more educational institutions participate because it is largely in them that we find the true scientific spirit—intellectually able, curious, and morally courageous, with enthusiasm for abstract concepts and experimental verification.

Part number three involves housing documentation. The objective here is to develop and put into use an industry-wide process of abstracting, indexing and distribution of abstracts as well as a simple but national process for storage and retrieval of housing research information. This kind of a system of documentation is well recognized as an important working tool in all other scientific research. Before any research project is begun, a search of the literature is necessary. Any project begun without this step is running the grave risk of operating in a sterile environment without benefit of what has been done in similar areas. Through a documentation system, work that is completed and published becomes accessible and available to everyone.

These, then, are the three major areas which need assistance from the whole housing industry—industry identification of problems, a method to stimulate the carrying out of actual research projects, and a system of housing documentation. When these efforts are added to the AIA's architectural research, to NAHB's field trials program, and to product development programs by other industries, we may find the housing industry beginning to make important progress. America has pretty well caught up with the desperate post-war housing shortage, so the objective of the Housing Act of 1949: "a decent home in a suitable environment for every family" is out-of-date. The real need now is for sober thinking and planning for an objective of far greater scope: for good houses in well-planned communities that can become a lasting and pride-worthy part of the American Heritage. ◀

HOMES FOR BETTER LIVING COMPETITION

There is still time to submit entries in the 1960 Homes for Better Living Awards Competition, sponsored by the AIA, in cooperation with *House & Home* and *Life* magazines.

Entries may be submitted by the owner, architect or builder. House must have been designed by a registered architect and built and completed since January 1, 1957, in any of the fifty states. Announcement of award winners will be made at the AIA's Annual Convention in San Francisco in April.

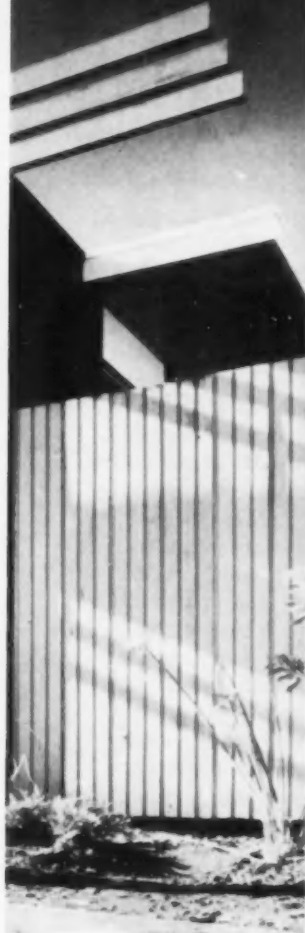
Entry slips are available on request from AIA headquarters, 1735 New York, Ave., N.W., Washington 6, D.C., and must be sent in by January 15th. Deadline for submission of material is February 12th.



Ernest Braun

Design —

Mr Anshen, of the well-known San Francisco firm of Anshen and Allen, has actually put into successful practice some of the most advanced theories in house-planning—including the house which presents a blank wall to the street. Here are two case histories which gives a good idea how it's done.



*Street-front of the
Eichler house. (See
page 48.)*

► I am going to relate the case history of a certain type of "merchant builder house," but before so doing, I should like to list a number of considerations which must go into the design of any merchant builder house:

1 The fitness of each detail and component part of the design to provide a unified, delightful overall aspect to the buyer.

have, etc. He must imagine what would be designed for an imaginary buyer. The architect does not know the composition of the family, how the people like to live or entertain, what hobbies they have, etc. He must imagine what would be desirable for the largest number of people in a given price category.

3 Cost, surveys, etc. The architect must evaluate every detail and component part with an almost exact knowledge of what the total cost will be. A house designed for a merchant builder who operates in an area where people can qualify for a \$15,000 total package cannot produce a house which costs \$16,000 for the total package. In the metropolitan areas of California, usually the total cost of the package is a little less than twice the cost of the house, the end product; that is to say that if the turnkey price to the buyer, including the land, is \$20,000, the actual house itself must cost not more than \$11,000 to \$12,000 (depending upon land cost). The balance of the \$20,000 package is land, fees, financing, profit, etc.

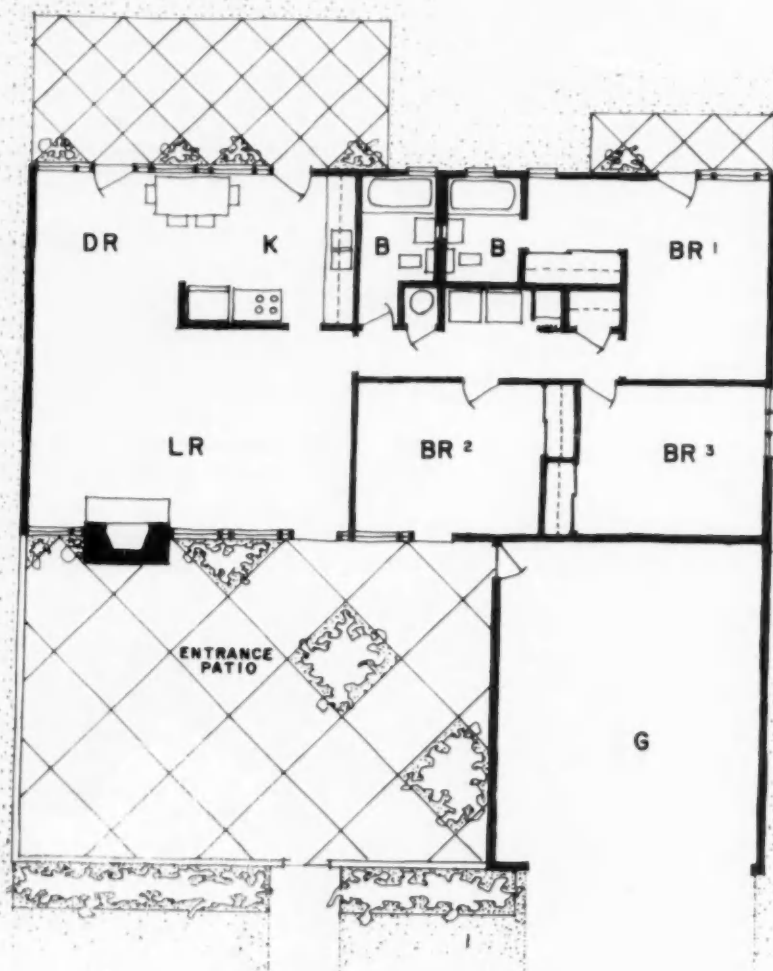
An important consideration in arriving at cost is that once the house has been designed and, let's say in the case of the \$20,000 house, has 1500 square feet in the house plus a two-car garage, if the architect simply expands the size by

TODAY'S CONTEMPORARY HOUSE

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BY ROBERT ANSHEN, AIA

five or ten per cent without adding to the number of doors, windows, and other features, the cost of the expanded area will be about 30% of the cost of the original 1500 square feet. Thus the



*Built by John C.
Mackay & Associates
in Palo Alto, Calif.,
this house is in the
under \$14,000 class;
completed in 1954.
Anshen & Allen,
Architects*

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addition of the 150 square feet in area added to the original 1500 square feet might cost \$450 or \$500 but would add far more than that cost in appraisals and value to the public and in the rapidity of sales—assuming of course, that the extra \$500 did not put it outside of the range of qualification of the buyers in the neighborhood.

Now for the case history. When our firm started designing merchant builder houses in 1949, it was decided as a matter of policy that wherever possible the building would be blank to the front, have as few windows possible on the sides, and open as many of the principal rooms as possible to a private rear garden. We are all aware of the fact that most "merchant builder houses" even today are built with windows on all sides, and that in most cases the principal rooms face the street. This latter concept of planning comes from the tradition of the old English castle or manor

house set in the middle of a great park with the great park surrounded by fences and gatehouses so that the park itself is private and controlled. When these great houses were built looking out of all four sides of the building, it was proper and correct because you looked out on controlled spaces which assured privacy. We in America have built most of our houses on this principle ignoring for the most part the Mediterranean concept of having a blank wall to the street, building the side and rear walls on the property line and having a great open court in the middle which provided sound as well as visual privacy from the neighbors.

As the population in the United States increases, the available desirable land decreases apace, thus the individual pieces of property, or as they are commonly called "lots," have gotten smaller and smaller with the smallest naturally in the lowest

price range. If you have windows on the sides of the building that is put, let us say, on a lot which in this area, is usually 60 feet by 110 feet, the side windows are not very far away from the side windows of the house next door, thus there is no sound or visual privacy between houses. We wanted to remedy this situation and we felt certain that anyone who had the opportunity to see such a solution would appreciate its very real advantages.

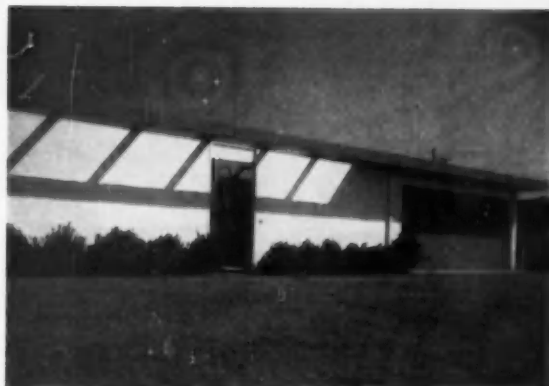
We, therefore, soon persuaded the merchant builder to try the design of a house which was absolutely blank to the street with nothing but the doors to the garage and the door into an entrance court, which entrance court was closed from the street by a wall as high as the wall of the one-story house. The solid door to the entrance court was controlled by a buzzer from the inside of the house and the front door bell was in the wall next to the solid door of the entrance court. Thus, the entrance court attained privacy from many casual visitors, salesmen, etc., since if the occupant of the house did not know who was ringing the bell, it was possible for them to walk to the garden door and ascertain who was ringing before allowing the visitor into the court. This then allowed us to have living spaces with glazed areas toward the entrance court, solid walls to the sides, and glazed areas toward the rear private garden. Thus it was possible to provide fenestration which would be oriented north and south with glazed areas north and south but would also provide complete privacy from passers-by or unwanted visitors. Every effort was made, therefore, to have no windows on the sides of the house although sometimes it was necessary to put a high bathroom or minor bedroom window on the side.

The builder for whom we did the first of the houses described above was "leery" of whether a house that did not look like a house but looked like a blank wall to the street would sell at all, but being a forward-looking man, he went along with the architect, and this design was but one of five designs, the others of which were based on more conventional planning concepts. When the public entered into the courtyard and saw the result, the majority of them wanted that house instead of the other four. It was necessary to rearrange the composition of the houses in the total subdivision in question to obtain as many of this particular type as possible, and when those had been all sold first, it was necessary to close this model house and not show it to future prospective buyers so that houses like the other four models could be sold!



Mason Weymouth

Mackay House looking toward the dining area



Mason Weymouth

Street elevation, Mackay House



Mason Weymouth

Living Room, Mackay House



A house in the over \$20,000 class, built in 1958 by Eichler Homes in Sunnyvale, Calif., Anshen & Allen, Architects.



Ernest Braun

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Interior Court from entrance gate, Eichler House

This concept of house then was used more and more in developing subsequent plan types so that now the type of house which is most popular in this area always has a central court with as many rooms and passageways as possible giving into it and the rear private yard, while it is as blank as possible to the sides and to the front.

Once we get inside the house the criteria of visual and sound privacy from one space to another are the same as those from the house itself

to the outside. In a small house, however, the economics of the selling price indicate that rooms cannot be as large as might be desirable, and therefore, in order to provide at least one space which gives at least a visual sense of large size, the architect finds it desirable to "throw together visually" as much space as possible. Thus the all-purpose room and the kitchen are now thrown together with no barrier between the kitchen and the all-purpose room, which in essence becomes one large room. The living room then is at a dead-end and has both visual and sound privacy from the kitchen and the all-purpose room. Likewise the master bedroom and the other bedrooms are visually and soundwise cut off from the kitchen and all-purpose room as much as is possible. The dining area may become part of the living room for those times when dining and the all-purpose room are not considered desirable. In addition to the all-purpose room connected to the kitchen, in the \$20,000 to \$25,000 house we also provide a second all-purpose room preferably located between the garage and the kitchen, but which has a door which shuts so that there is a second sound-private room other than a bedroom, in addition to the living room and in addition to the all-purpose room, which can serve as a hobby room, music room, study, or office. This room has a separate door to the outside and is connected on the one hand to the garage and on the other hand to the central hall. In all of these houses, it should naturally be possible to go from the entrance door to any space without passing through any of the rooms. In most of these houses, it is possible to have the living room, the kitchen, the all-purpose room and the master bedroom face the rear private garden with their principal glazed area while simultaneously having the first all-purpose room, the fourth bedroom and the passage to the bedrooms face the inner court. In this way the most effective relationship between sound and visual privacy inside and out and between the interior and exterior spaces is attained.

It is to be observed that these principles of design are based on gently rolling or flat land and on large quantities of houses being built in a given neighborhood. These principles also assume a density of four or five houses to an acre and naturally would still apply, but with less force, to houses built on lots of up to an acre. The vast majority of merchant builder houses being built today in metropolitan areas range in price from \$15,000 to \$25,000 and thus these design principles, we believe, apply to the greatest number of houses being built. ◀

A
*Portfolio
of
Homes*

the
architects
represented
in this
portfolio:

Robert C. Broward, AIA

Jacksonville, Florida / p. 54

Keyes, Lethbridge & Condon

Washington, D.C. / p. 56

Curtis & Davis

Associated Architects and Engineers, New Orleans / p. 58

A. O. Baumgardner, AIA

Seattle, Washington / p. 60

The Architects Collaborative

Cambridge, Massachusetts / p. 62

James M. Hunter & Assoc.

Boulder, Colorado / p. 64

Edward H. Fickett, AIA

Los Angeles, California / p. 66

José Luis Sert

Cambridge, Massachusetts / p. 68

Paul Rudolph, AIA

New Haven, Connecticut / p. 70

Anshen & Allen

San Francisco, California / p. 72

Edward D. Stone, FAIA

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Carl Koch & Associates

Cambridge, Massachusetts / p. 76

Paul Thiry, FAIA

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January, 1960

Special Supplement of **The Journal**
of The American Institute of Architects

On the following pages ...

... are thirteen houses designed by thirteen architects in various parts of the country. Most of them are "builders' " homes. Those few that are not are considered by their architect to be suitable for adaptation as builders' homes. All are of good design, and represent the best in today's architectural thinking. All architects today are thinking in terms of designing for economy, privacy, efficiency, good taste and good living, getting the most out of a plot and the most out of a limited

number of square feet of living area. These houses show, in thirteen different ways, how these aims can be achieved. We commend them to your careful study.





Better Homes.



A Portfolio of Homes



..USA

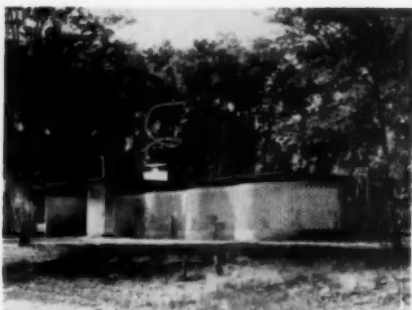
Robert C. Broward, AIA
Architect, Jacksonville, Florida

Hall Enterprises
Builders, Jacksonville, Florida

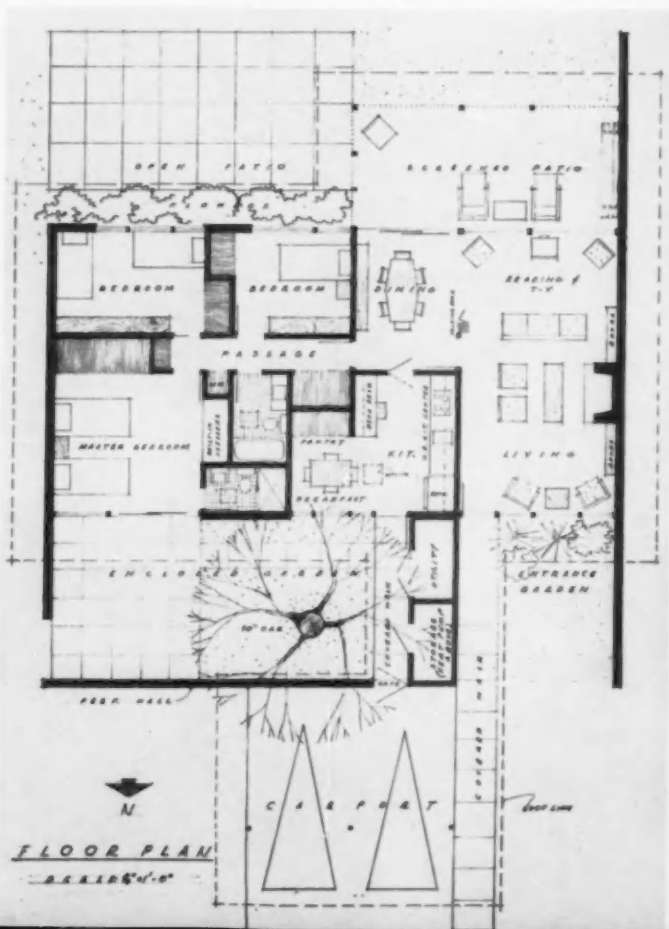


A Homes-for-Better-Living
 Honor Award
 Winner

A Home in Florida



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The architect says "I contend that there must be a willing builder as well as a willing architect before good design can be evidenced in the mass-produced house." This house has 4"x12" wood beams spaced approximately 12 feet on center, spanned by 3"x6"

double T&G wood decking left exposed. The architect laid out the subdivision, designed seven basic houses, and completely supervised the project—including color selection, landscaping, site planning and all other matters relating to design.



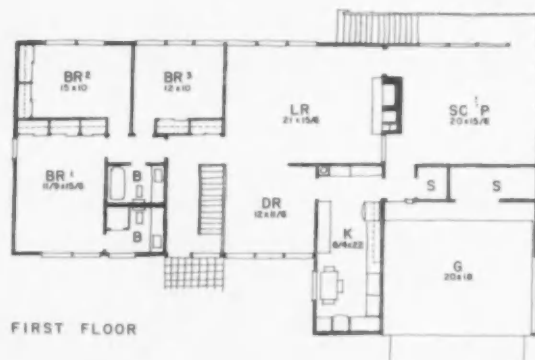
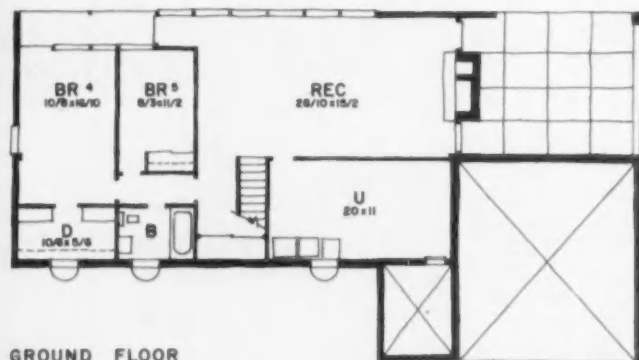
ROBERT C. LAUTMAN

Keyes, Lethbridge & Condon
Architects

Bennett Construction Company

Matthews and Potter, Builders

Potomac Overlook, Montgomery County, Md.





Most of the houses in this wooded area have a fine view of the Potomac River. The property, which is close to the city of Washington, had been left undeveloped until 1957, because the rough terrain was considered too difficult, despite its natural beauties.

The success of the development shows what intelligence and good design can accomplish. The architects did the land planning, house designs, selection of materials, finishes and colors, and supervision of construction. The houses are \$25,000 and up.

**Curtis & Davis
and Associated Architects
and Engineers**

Architects

A "Walled-In" House in New Orleans

Residence of Mr. and Mrs. John T. Upton, New Orleans, Louisiana

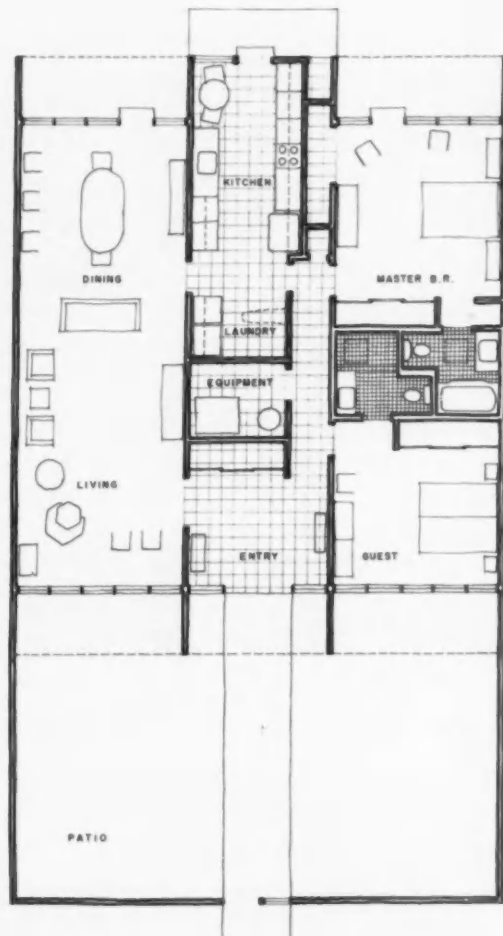
FRANK LOTZ MILLER



FRANK LOTZ MILLER



FRANK LOTZ MILLER





FRANK LOTZ MILLER

The property is in a choice part of town, with fine trees, but it is surrounded on three sides by neighbors' houses and backyards, with no outlook. Thus the house presents no windows to the exterior of the property at all, but only to the two walled gardens within the enclosure. Interior baths and the kitchen are lighted by obscure glass skylights. Exterior walls are cypress, which continues into the living room; interior partitions are gypsum board. The cost of the house was approximately \$26,000.



FRANK LOTZ MILLER

DEARBORN-MASSAR



A. O. Baumgardner, AIA

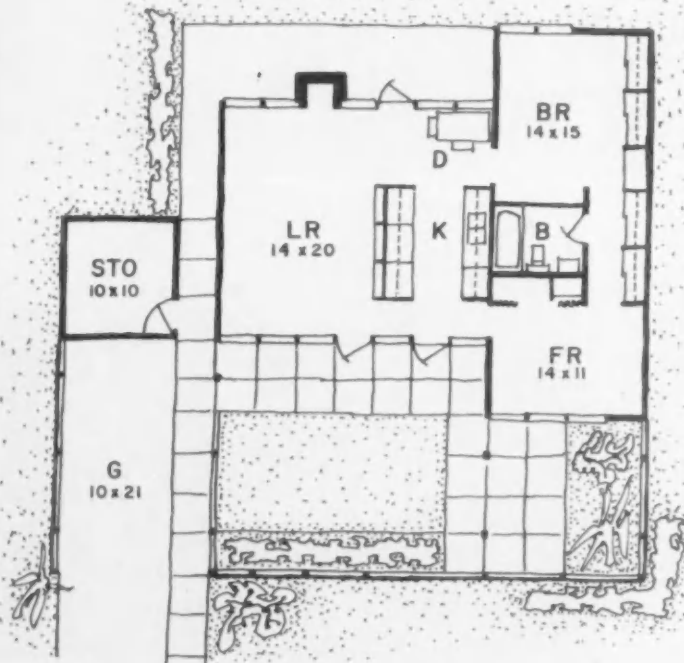
Architect

A Low-Budget House for an Elderly Couple

The Residence of Mr. and Mrs.

Paul W. Lange

Mercer Island, Seattle, Washington



DEARBORN-MASSAR



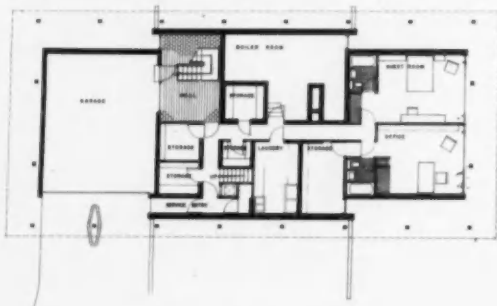
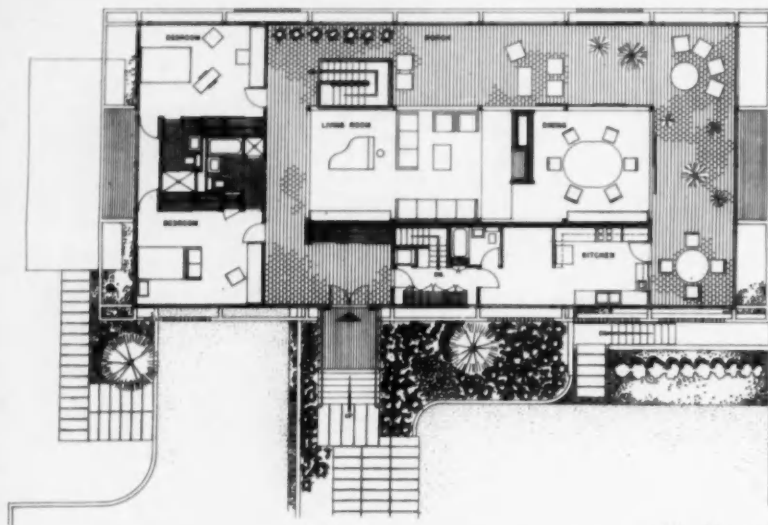


DEARBORN-MASSAR

This little house contains only 958 square feet, plus garage and terrace, and its building cost was about \$15,000. The living-dining-cooking area is covered with a pyramidal roof which seems to hover over the lower flat roofs. This sensation is enhanced by complete perimeter clerestory windows under the high roof. The guest bedroom doubles as a laundry-sewing-work room and TV retreat.



DEARBORN-MASSAR



The Murchison house sits on a high sand dune at the end of Cape Cod, commanding a view of the Atlantic in three directions. The owners entertain considerably, and the house is planned with great open spaces, yet the central living room is psychologically separate from the total open space and still a part of it. The exterior walls are almost entirely of glass, with white stucco in the solid panels; teak, walnut and birch finishes are used extensively in the interior.

JOSEPH W. MOLITOR



JOSEPH W. MOLITOR

JOSEPH W. MOLITOR



JOSEPH W. MOLITOR



The Architects Collaborative, Architects

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A Glass House by the Sea

The Residence of Mr. and Mrs. Carl Murchison

Provincetown, Massachusetts



REYNOLDS

A House in the Mountains

64



REYNOLDS



REYNOLDS

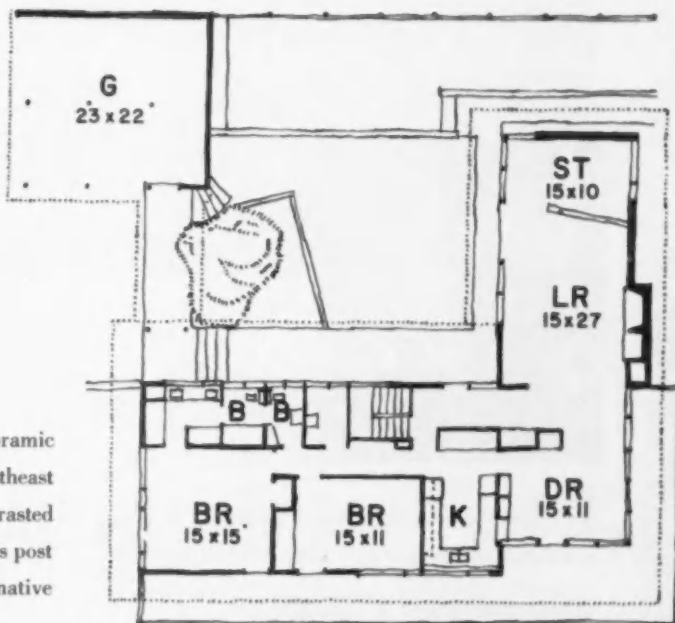


James M. Hunter & Associates

Architects

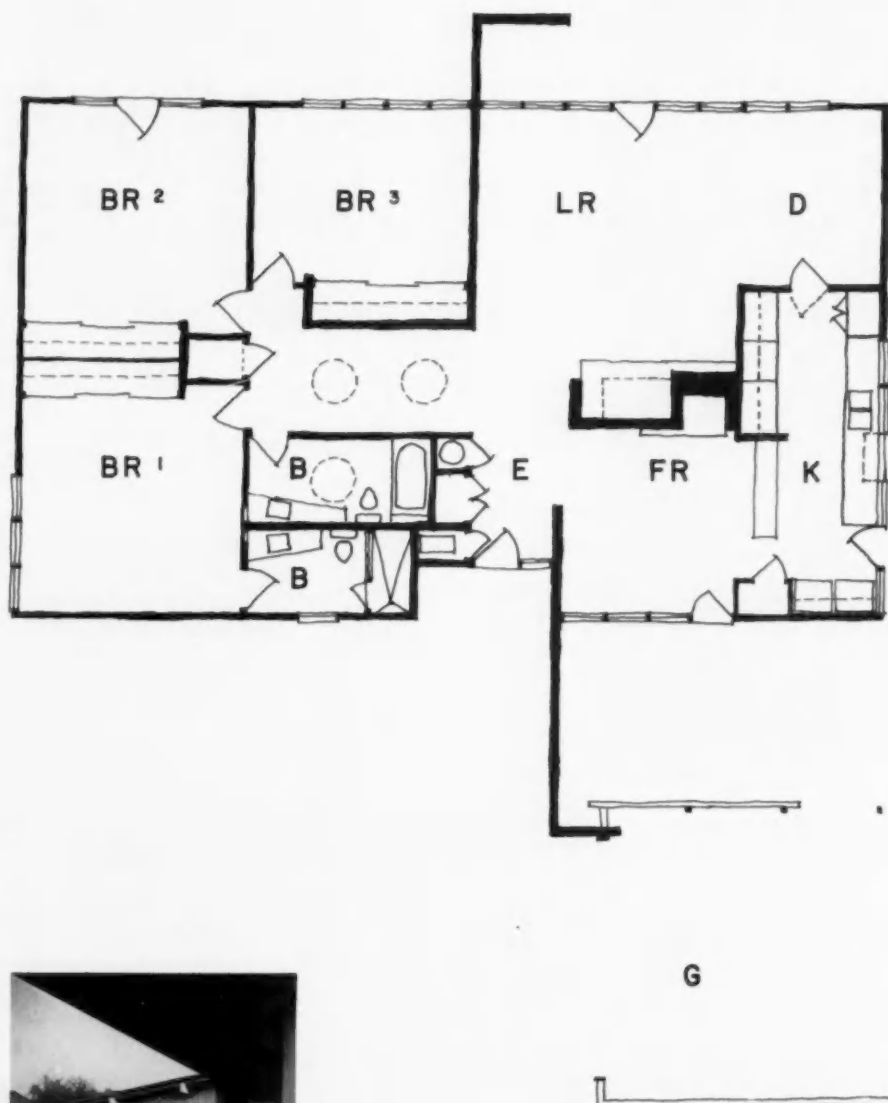
Boulder, Colorado

The Kenneth Norton House



This house and site command a 360° panoramic view. A balcony runs the full length of the southeast side of the house. This wide open space is contrasted to the entrance court at the rear. Construction is post and beam, exposed, with 2"x6" T&G ceiling, native stone and wood exterior.

Edward H. Fickett, AIA
Los Angeles



GEORGE DE GENARO

66

A Successful Builders'

This house is presently being constructed by four speculative contractors in various parts of southern California. The house contains 2,000 square feet of living area, not including garage. Total cost, exclu-

sive of profit and lot, is about \$22,500. This includes carpeting and built-in kitchen equipment. By relocating the garage, the basic house can be properly oriented on any 80-foot lot.



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House in Southern California



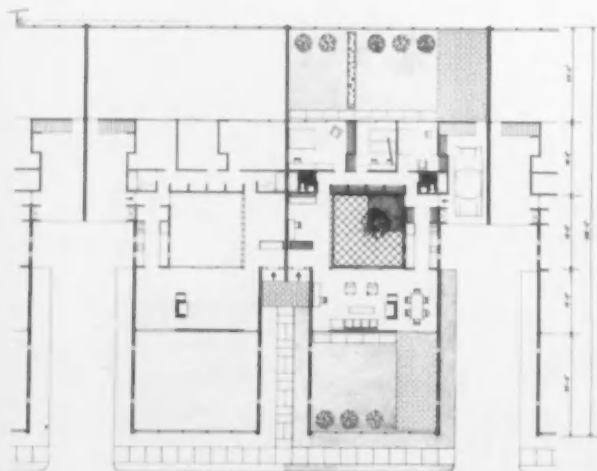
José Luis Sert, AIA

Architect

The Home of José Luis Sert
Dean of the Graduate School of Design,
Harvard University, Cambridge, Mass.

The shrinking size of our homes decreases the possibilities of interesting facade designs and it may be timely to give up pretentious facades, to design houses looking inwards and to create a new kind of interior facade which can be controlled by each family and will not clash with the appearance of the neighboring houses. In a multi-court house privacy can be combined with picture windows opening to inside spaces. What you see out of these windows will be under your own control and not that of the neighbors or the city. The walls enclosing the courts act as buffers against view and noises; such courts if properly proportioned can be agreeable and livable even in cold climates. Good drainage systems have to be provided and the snow in the courts can be kept clean.

In this multi-court house in Cambridge, Massachusetts, the architectural treatment of the courts makes them an addition to the interior space. They are roofless rooms that can be used by adults and children for play or visual delight. Privacy behind walls can be a blessing if we consider the noises, looks and nuisances of our streets.

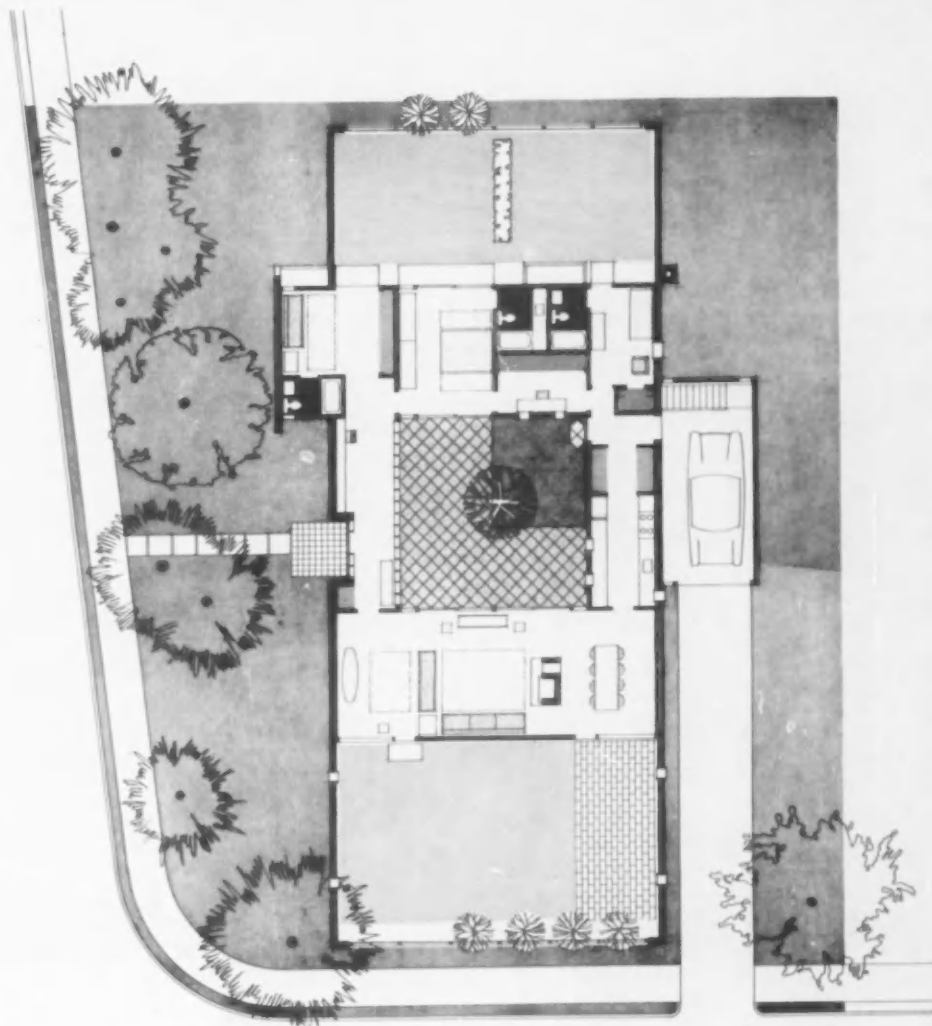


LOUIS REENS

Our houses have become so small in area that we can get more attractive vistas by spreading them out on one level. Trees will regain their importance as they appear over the lower fences and walls. This type of house can be clustered together without depriving the neighbors of their privacy. Clusters of houses can be grouped around small parks or squares providing play spaces for children. Parking can be provided for in driveways and privately-owned land at the rate of two or three cars per house, thus taking the cars off the street.



LOUIS REENS



A House Which Faces Inward



LOUIS REENS



LOUIS REENS



Paul Rudolph, AIA

Architect

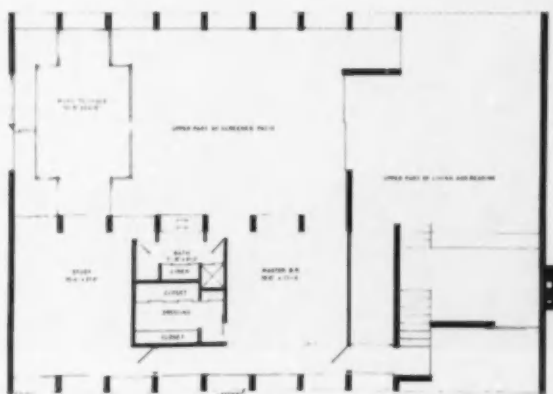
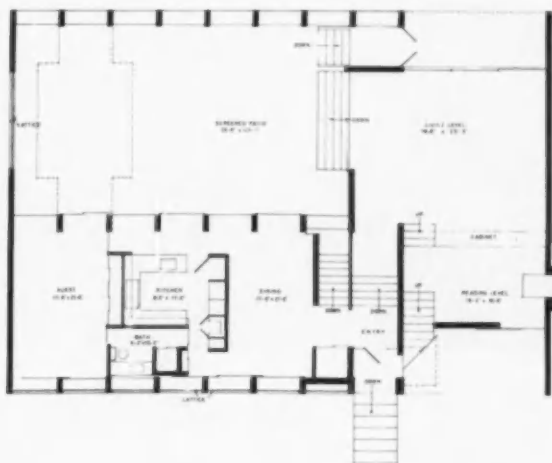




A House on the Keys

The Deering house, on Casey Key, Florida, makes a dominant feature of the customary screened patio. The three general living areas (living, cooking-eating

and bedroom) are separated not only in plan but in level, and further differentiated by different ceiling heights. The material is concrete block.



Anshen & Allen

Architects

San Francisco, Calif.

*A Merchant Builder's
House in California*

The builder, Elmer Cavallo, building in Sunnyvale, wanted a house which would be a distinct departure from the conventional tract house with its low-pitched or flat roof. The solution was this "cathedral" roof, flowing into the flat-roofed wings. The front of the house is integrated with the fence, creating a sheltered garden court off the main living areas, completely screened from the street.



ROGER STURTEVANT



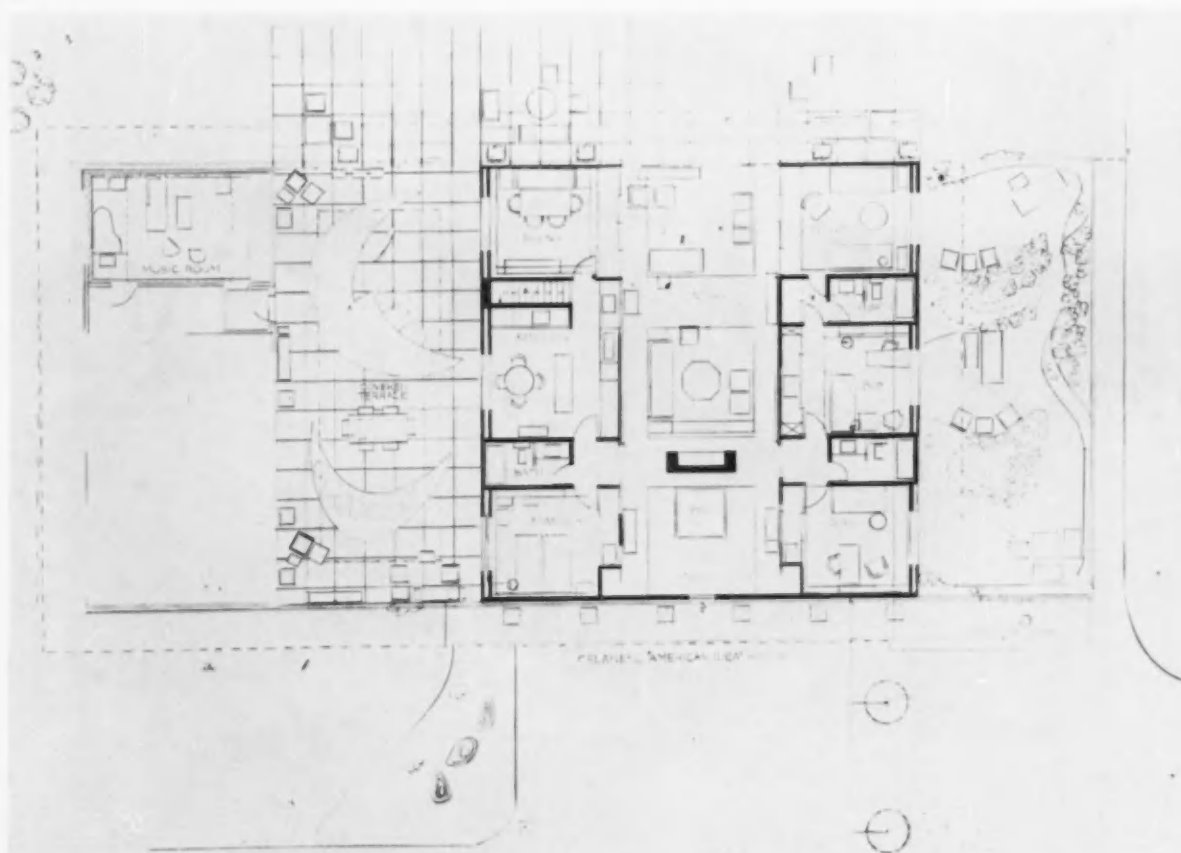
ROGER STURTEVANT



ROGER STURTEVANT



ROGER STURTEVANT



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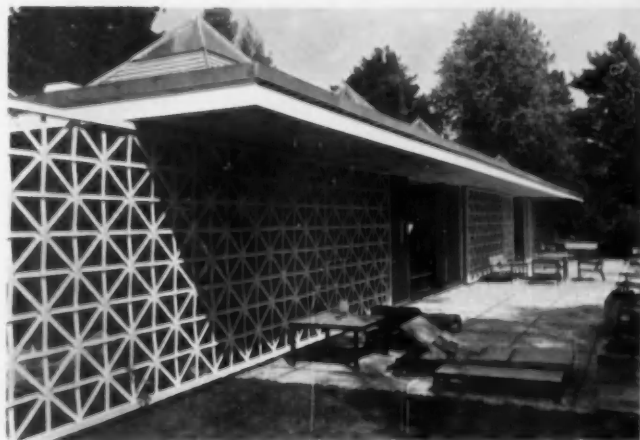


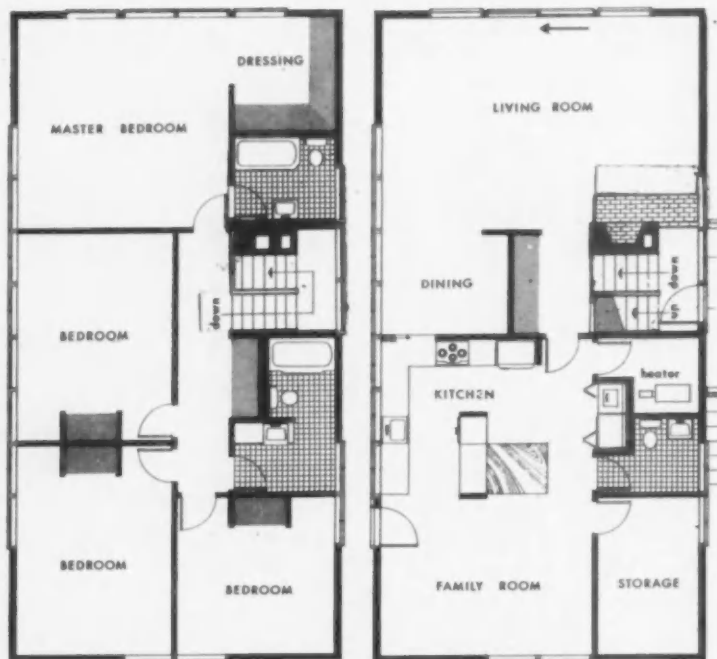
"The Celanese House"

Edward D. Stone, FAIA

Architect

Designed and built as a demonstration house for the Celanese Corporation, this can hardly be called a small house (3,700 square feet, including garage), but it furnishes so many new and brilliant ideas that it should be included in any collection of contemporary house designs.





The Techbuilt House

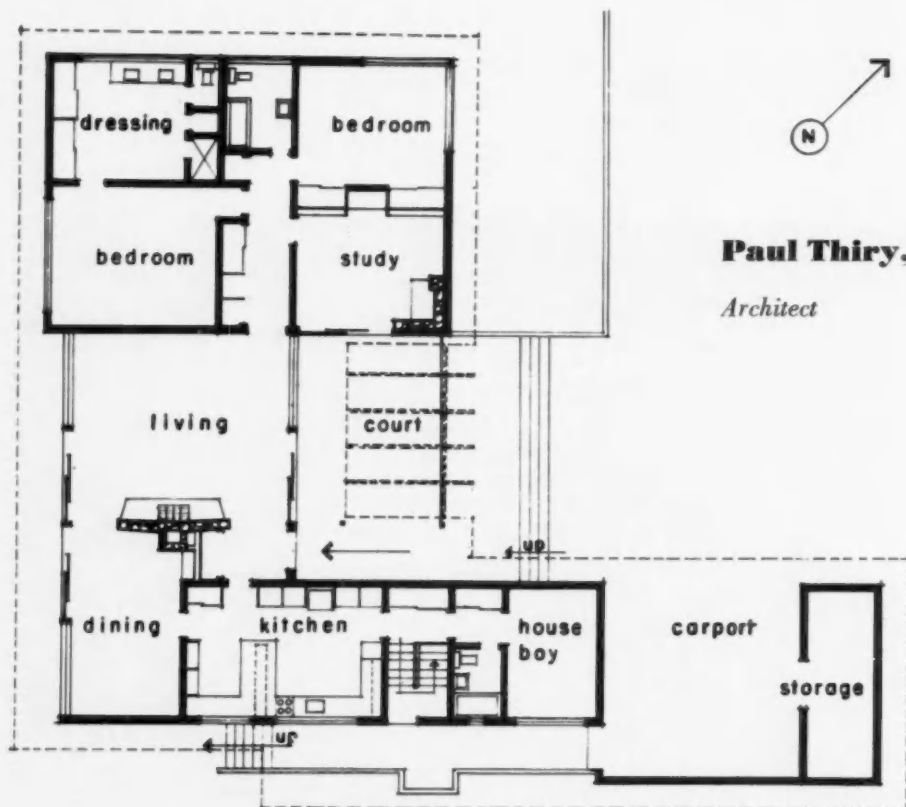


LISANTI INCORPORATED

The residence of Edward Diehl, in Cambridge, Massachusetts, is an excellent example of both the practical and the esthetic success of the Techbuilt house. It is built of standard pre-fabricated components, based on a four-foot module—including the second floor and the roof. Exterior finishes are added after erection.

Carl Koch & Associates

Architect



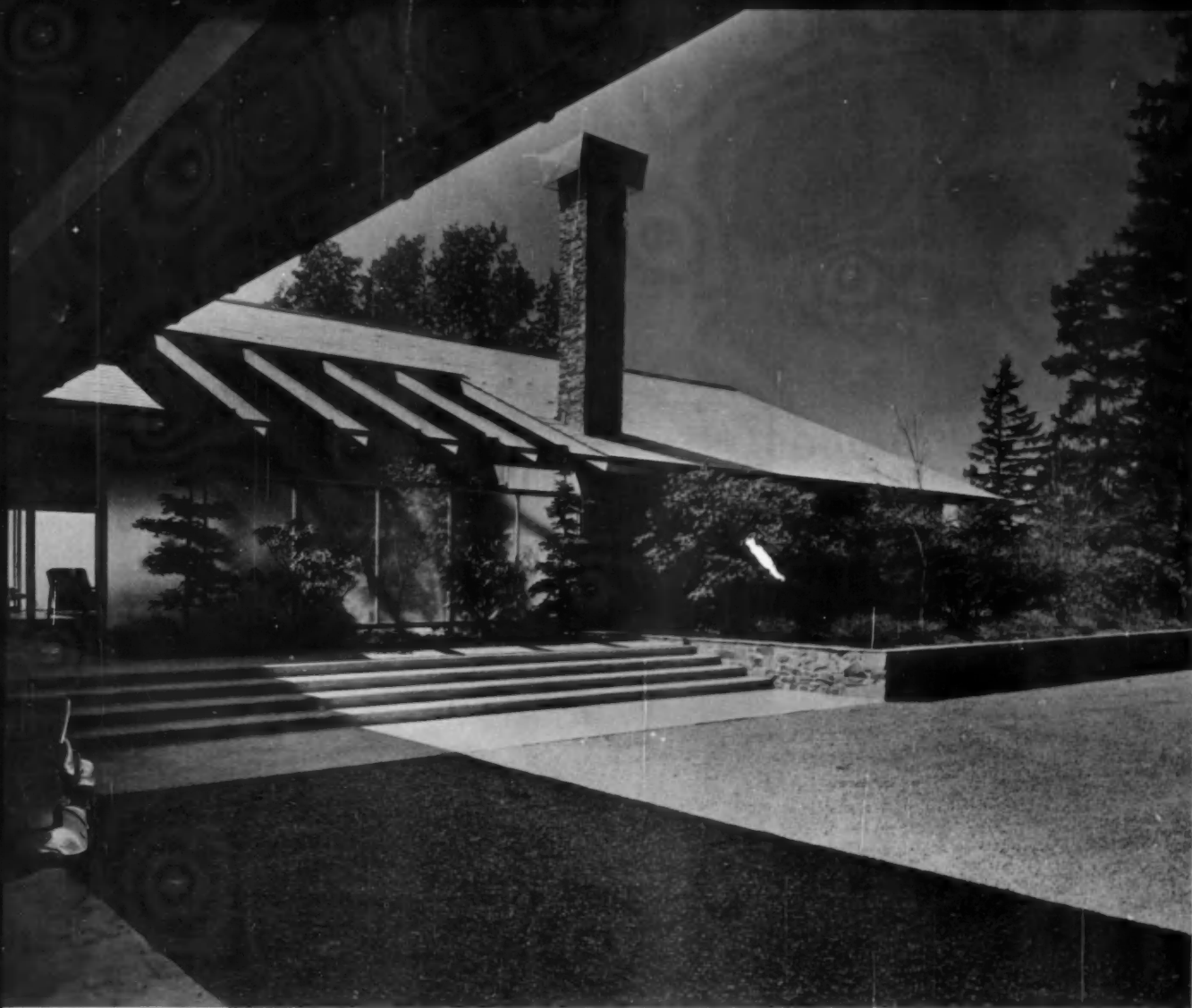
Paul Thiry, FAIA

Architect

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ART HUPY



ART HUPY

Residence of Francis Brownell, Jr.

The Highlands, Seattle, Washington

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ART HUPY

The house stands on a hillside overlooking Puget Sound with its distant range of snowcapped Olympic mountains. It is entirely of wood construction, with glued-laminated beams for the long spans; the exterior is vertical grain redwood left unfinished, and the roof is white asbestos shingles. Flooring generally is slate.

A
Portfolio
of
Homes



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Journal of

THE AMERICAN INSTITUTE OF ARCHITECTS



The 1959 AIA-NAHB Award of Honor

Architect-BUILDER group Jones and Emmons, Los Angeles—
Anshen and Allen, San Francisco—
and Joseph L. Eichler, Palo Alto,

is winner of the First Annual AIA-NAHB Award of Honor. The award was initiated this year by the two national organizations "to encourage the design and construction of the best communities and homes for the American people by promoting the collaboration between architects and builders."

Jurors, selected by their respective organizations, were architects Edward H. Fickett, Los Angeles, (center) who served as chairman; and (from left to right) Victor Lundy, Sarasota, Fla.; Arthur H. Keyes, Jr., Washington, D. C.; and builders William E. Witt, Virginia Beach, Va.; and Edward H. Bennett, Jr., Bethesda, Md.



After reviewing all entries submitted by chapters and/or members of the two organizations, the jury found the joint submission of architects Jones and Emmons/Anshen and Allen and builder Eichler, was indicative of the many worthy contributions this architect-builder group has made to the homebuilding industry and was most deserving of the Award of Honor. Presentation of the award will be made at the NAHB Convention in Chicago in January and at the AIA Convention in San Francisco in April.

The establishment of the award to recognize the architect-builder team which contributes most to architect-builder relationships, public service, better living, or improved building techniques is a top propriety project in the continuing program of collaboration between the AIA and the NAHB.

The Architect's Influence

ON THE TRACT HOUSE

"Hank" York has built up a nation-wide reputation as a homebuilder's architect, first in partnership with Rudolph Matern, and in recent years, under his own name. His houses cover Long Island and the New York area, and lately his bulky figure can be seen in builders' offices in many parts of the country, as well as at AIA Committee meetings.

House and Home



BY HERMAN H. YORK, AIA

► Since the end of World War II, homebuilding has become one of this country's largest industries. It emerged through rapid evolution from a craft to a complex business.

Homebuilders find themselves increasingly involved with complex daily problems and they now find it profitable to surround themselves with professional help in areas requiring specialized solutions.

Fortunately for both architects and builders, a greater awareness has been exhibited recently by all segments of the industry toward the architect's potential in the tract house-building field.

Increased activity in housing research, by major manufacturers of materials usable in house building, is providing the architect with a vast amount of up-to-date information enabling him to perform a more complete service to the builder. Research is producing at an accelerated rate building mate-

rials which will place in the architect's hands tools for greater design flexibility, and the degree to which the architect interests himself in these new products has great influence upon his value to the homebuilder client.

The homebuilding industry needs, and needs badly, new materials which will give its tract houses a fresh look.

In the past the facings used in housing, both exterior and interior, have been limited to a very few. Cost factors played an important part in their acceptability, but today with imaginative design, other materials within the economic limits of tract building are becoming available.

The merchant builder is too often unsuccessful in his desire to produce a community of houses which do not appear typically "tract built." Where a monotony of exteriors exists the builder defends the "look-alike" character of his project by point-

House and Home



ing up the cost savings passed on to the buyer through repeated design.

Here it should be noted that although buyers are conformists in such things as clothing and automobiles, they prefer a degree of "individuality" in their houses. "Different, but not too different" becomes the buyer's yardstick when shopping for a new home.

The homebuilder architect's responsibility toward his profession and the building industry is one of an ever-widening scope.

He contributes a technical "know how" which, if used by the builder, will produce a better product for less money. He endeavors to incorporate in his designs a character reflecting his professional skill, worthy to be designated "architect-designed."

The architect brings to the project a combination of talents, for he has been schooled to be artist, engineer, and business man. He makes frequent visits to Cloud Nine but when the occasion demands he can set aside his lofty dreams.

His work on the tract house is in the nature of sound planning aimed at reduced costs with prime emphasis on good design.

Experience has shown that his influence is readily apparent in projects where the builder displays a cooperative attitude toward the architect's aims. The architect's success in this field is directly related to his knowledge of the science of homebuilding, for he must not only understand the product but be able to design with practical as well as esthetic considerations.

Frequent contacts with many builders enable the architect to observe homebuilding operations on a broad scale. He compares one with another, passing along to his clients, without betraying confidences, the best thinking of the industry.

Builders value this kind of help because during their periods of production they have little time to devote to the study of the latest in techniques and materials.

The architect keeps in touch with the industry by attending meetings, by his work on the committees of technical societies, by his close association with all segments of the homebuilding business. Such contacts benefit not only the builder, but they influence greatly the design of the house, for it is in such meetings that the architect acquires renewed stimulation.

For the architect, the design of tract houses may have its frustrating moments because of influences which stifle creative thinking; there is, nevertheless, a challenging aspect to this kind of work. Where building cost is a vital ingredient

the restrictions upon design are magnified. In tract building such restrictions are multiplied not alone by the cost of building but by many other factors including archaic building codes, unimaginative zoning ordinances, and an inborn reluctance on the part of the industry to accept change.

Much of the architect's influence in tract design is a product of the work he does in the area of custom-built houses. A freedom of expression is possible in this field; many ideas conceived here find their way into the "assembly line."

However, because the tract house is a product for sale, it involves many facets of big business. The marketability and merchandising factors influence the architectural design. A criticism, often justified, of many tract houses is that there is too much of that kind of influence.

The architect is uniquely qualified for tract house work in at least two fields—that of design and that of marketability.

In the first area his ability usually goes unchallenged. There are here, as in all professions, varying degrees of original thinking, but the qualifications required by state registration provides, in the architectural field, men with recognized ability.

The matter of the influence of marketability upon house design, and whether such influence is ever justifiable, provides much fuel for debate. Some architects refuse to compromise their design because of commercial influences and from a purely professional point of view they cannot be condemned. It would seem, however, that if we are to hope for universal acceptance of the kind of residential architecture which we as architects believe in, we must be willing to engage in the long range education of our citizenry toward that end.

Progress is not made by copying the past. It has so often been shown that good contemporary design incorporates principles man has learned through many decades of artistic endeavor. It is indeed unfortunate that vast segments of our population subscribe to the idea that their homes must resemble those of our Colonial forebears.

Our influence upon the design of tract houses can become a significant one, not simply by scoring the homebuilders for what they are doing, but also by showing them that the kind of houses we prefer to design will sell. In many areas of our country this has not been satisfactorily demonstrated.

Such a program is not the kind of thing done on a crash timing basis, but with patience and leadership the architects of this country can become the dominant force toward better-designed tract houses. ◀

BY CARL FEISS, AIA, AIP

► The time has come to talk about a New Towns program for the US and the relationships of the homebuilding industry, the real estate industry, and the architectural profession to such a program. Too long now we have been accepting uncontrolled and undesigned urban sprawl as a natural and inevitable part of free enterprise subdivision design, homebuilding, and community development. It is about time that we seriously consider altering our national downhill race towards total land pollution in metropolitan areas. Where is a clear-cut objective to build sounder, better, more attractive and stable communities? Lip service to planning and slavish dependence on the banality of zoning is a subterfuge for creative thinking and action.

Neither our architects nor our homebuilders nor the real estate or home financing industry, the federal government, state governments or local governments are directing their attention to specific solutions of problems which are clearly confronting all of us in the rational and sound de-

New Towns for America

The author is one of the country's more distinguished town planners, and as such is Chairman of the AIA Committee on Community Planning. He suggests the following note: "Any statements resembling political issues, alive or dead, are purely coincidental. This article does not necessarily represent policies of the AIA, its Committee on Community Planning, or the Editor of the AIA JOURNAL. Except where otherwise noted, they represent the author's point of view."

velopment of urban America. The phrase "new towns" is meaningless to most of us, or it is considered as a part of Cloud Nine, or it is simply misunderstood. For the most part however, people do not think of it at all. However, the subject of this article is "New Towns." It will attempt to briefly define an idea and to relate the idea to a new role for the architect, the homebuilder and the developer.

What is a New Town?

A New Town or for that matter a new village or a new city, is in contemporary terms, any completely designed and built new community in which are to be found all the elements of a complete urban settlement regardless of size. This means that there would be within such a new community not only residence but also commercial and industrial areas, schools and recreation areas, and all services and facilities necessary for the establishment and maintenance of a full-time, full-scale, administrative, economic and social unit. A New Town may be built by public or private means or a combination of both. It may be lo-

cated as a satellite community to a central urban area or it may be in an isolated location. It may be an isolated area within a greenbelt surrounded by urban sprawl. A New Town may be of any size, any mixture of percentages of types of residential and industrial uses. It may be designed or undesigned depending upon the nature of the sponsorship and the interest of the people involved. There is nothing complex about the concept of the New Town. The only complex problem is to find the reason why the New Town idea is not acceptable to the American public.

The New Town Tradition in America

The New Town concept is one of America's oldest and is part of our historic tradition, a tradition that has never been completely abandoned but on which we have done very little new building in recent years. The settlements of the seventeenth and eighteenth century migrants to America from Europe were new towns. The best-planned and best-known examples are such communities as Williamsburg, Virginia; Savannah, Georgia; New Orleans; Annapolis, Maryland; Philadelphia; New Haven; and innumerable others. During colonial expansion other planned new towns were continually being built culminating immediately after the Revolutionary War in Washington, D. C., a new planned town of greater scale than had been conceived of before with the possible exception of Peking. Almost simultaneously with Washington, came Cleveland, Buffalo, Indianapolis and other planned new towns in the mid-west. When the Mormons migrated to Salt Lake, they built a complete new town at the Great Salt Lake. During the latter part of the nineteenth and early part of the twentieth century, emulating British examples of industrial new towns, we built such communities as Hershey, Pa., and Kohler, Wisconsin. In the early twenties we began further new town construction at Radburn, New Jersey; Johnson City, Tennessee; Mariemont, Ohio, and several others. Further experiments were continued with the three famous Greenbelt Suburban Resettlement towns which were however not New Towns in the strictest sense. They did not contain areas set aside for industry and fell more or less into the category of dormitory communities. Since then, some experiments have continued. There are Park Forest, Illinois, the Levittowns, and a number of other large-scale private developments. Park Forest is perhaps the only significant one in which there has been an attempt to develop an industrial base within the town boundaries. During the past few years the Federal

government has stimulated the construction of several New Towns such as those built for the AEC in Tennessee, New Mexico, and the state of Washington. In addition to these, consideration should be given to Norris, Tennessee, as part of the original TVA responsibility and several planned communities which have been part of military installations or related to them. However, the sum total of these activities cannot be considered as a movement in any way ingrained in present or future private or public programs in the United States.

Foreign Programs

Fourteen good-sized new towns are nearing completion in Great Britain. These have been developed through the medium of public corporations with a wide variety of architectural and homebuilding solutions in which private and public enterprise have teamed together for the creation of model communities. Already industrial development apparently has been extremely successful in several such communities of which Crawley and Harlow, near London, and East Kilbride in Scotland appear to be the most successful. The Scandinavian countries have also been interested in building new towns. The most successful and best known — the new city of Vallingby outside of Stockholm. Probably the most spectacular new cities presently under construction are Brasilia, the new capital for Brazil and Chandigar, the new capital for India. Both of these are complete new cities. In Canada, several new towns are also under construction. The first to be completed is Don Mills, which lies just outside of Toronto and others are well along in their development.

Urban Sprawl and the Button Game

On November 2, 1959, the *Wall Street Journal*, in a feature article by Jerome Zukosky, highlighted the fact that government statisticians seem to have lost some two million homes in their statistical compilations on the homebuilding industry in the US. "Lost: 1.5 million to 2 million houses, worth \$15 billion, in the US, sometime between 1950 and 1956." The article goes on to say, among other things, that the inaccuracy of facts about the building industry creates planning problems for that industry. An emphasis is on the difficulty of computing actual work that has taken place on highways and other construction projects independent of or related to homebuilding. The article points out that manufacturers of building materials and home appliances cannot rely upon present statistics for the planning of production schedules. Washington officials and law-makers who have

been using these statistics as guides on housing and public works programs are also in trouble.

However, the most serious part of the entire statistical problem is that with the tremendous explosion of cities into the countryside and the attendant lack of real statistical knowledge of what's going on, it is difficult if not impossible to program for public works at the local level. Under the circumstances, who can accurately compute required public services such as schools, recreation, medical care, police and fire protection and other essential elements in sound community building? Where should they go? What will they cost?

Urban sprawl and the accompanying pollution of land has been widely discussed throughout the US at conferences of architects, homebuilders, realtors, city planners, land conservationists, students of government and public administration, tax experts, business and industrial leaders, and a limitless number of others. In fact, everyone is talking about it—the newspapers are full of it, the magazines are full of it—but nobody is doing very much about it. There is little discernible change in the standard FHA subdivision layout or in subdivisions conventionally financed. Quality, reasonableness, and modern planning technology have hardly advanced since the development of the Radburn idea in 1925. The quality of subdivisions done in that period differs little from the quality of present-day subdivisions. They remain either good or bad within a very limited range of patterns of development, depending upon the interest of the subdivider and of the homebuilder. Architectural services have been considered only when an enlightened homebuilder or developer believes that an architect can provide him with a better solution for a more saleable item. In general, despite the vast areas of suburban development constructed in the last twenty years and presently under construction, we are hard put to find anything that we can recommend with any degree of pride as being a substantial contribution towards the development of new and better communities.

It is clear that we cannot rely upon underwriting standards of FHA or of any other Federal agency or the subdivision control restrictions of any locality or on zoning to be the sole arbiters of whether or not we have an adequate land development plan. In a fractioned industry such as the homebuilding industry in which we find the techniques of medieval construction allied with the techniques of most modern fabrication, whether by small operator or large operator, there is little

indication that there is a real desire or acknowledgement of the need for a drastic revision of present practices in community building.

The architect for the most part has shied away from getting involved in design problems of expanding residential areas. He has not applied his training or his genius to the design of coordinated, well-planned, well-built and attractive new communities. While many architects have devoted much of their practice to the design of single-family houses and in so doing have influenced the design and construction of builder-sponsored houses with or without architects, the net result has still been a lot-by-lot type of development for residential areas in the suburban sprawl. This is true even when large scale acreage is involved. There may be exceptions but the evidence is clear that we are completely lacking in programs to curb chaos. What is needed is a new set of coagulants in order to prevent us from continuing into infinity a system which really is not a system.

Elements and Coagulants

During the course of the past few generations of community building and development a number of new elements in community design have appeared. The automobile and its attendant mobility are creating new methods of circulation and new requirements for its housing, both in transit and at various station points. Heretofore, mobility has not been a requirement of subdivision layout and of community development plans. Today we find ourselves facing a system of judgments on the gradation of sizes of roadway to serve various types of land uses and traffic generating points. Like water supply and sewage disposal, a highway system crosses subdivision boundaries and the boundaries of political subdivisions as well. Curiously enough despite the fact that we are dealing with independent developments, both private and public, very little actual progress has been made in the development of practical, scientific, and economic solutions as well as good design solutions for this all-important aspect of the growth of our country. As we fly over American metropolitan areas today there is little that we see that would indicate any sense of rational order, desire for creative, new and well-designed communities or a desire to remove obsolescence in any determined, large-scale way. At the same time, in hundreds of instances in any part of the country it is clear that we are creating new problems without having even attempted to solve the old ones.

We have been creating a series of whole new community coagulants. These consist primarily of

three specific elements in community design. The first and most obvious, is the new large-scale suburban shopping center. The second is the interchange between superhighways and local street systems. The third is the large public school, whether primary or high school. These elements which serve as anchors or coagulants of community interest and activity cannot be considered as backward in themselves as is the design of the communities in which they are located. Decentralized industry and suburban industrial parks may soon be added coagulants, although to date these examples are more limited.

If one were to attempt to find in the US a well-designed community in which all of these coagulants as elements of a single design have been brought together to form an orderly, socially and economically sound ensemble we would have to look long and hard. The author knows of no such single place. On the other hand, all of these elements exist in scattered fashion and can be used as illustrations over and over again of excellent selective progress. They are becoming excellent technically, architecturally and from the standpoint of providing better employment centers, educational centers, and better elements for improving the appearance of the community as well as improving its tax base.

In other words we are approaching the development of a new town concept by assembling in our own minds the fragments which would make up a complete community. This is being done not so much by plan or design as by accident, but the pieces of the Chinese puzzle have not yet been completely put into place in any one location.

There are no Federal, state or local incentives to date that would make it mandatory for the above elements to be placed in any rational pattern. The result is that problems of public services and utilities, of convenience and design, are not solved and the cost of maintenance and operation of new communities coupled with lack of satisfaction in them continues to foster unrest and mobility of an undesirable type. The safeguards of zoning after the fact, are negative controls which place no premium on design and which, when planning is lacking, provide no insight into the potential development which should be considered if proper community planning and architectural design is coupled with a rational land development program.

Attitudes

The fact that the term New Town is unpopular as mentioned above, is part of the attitude which both the architect and the homebuilder persist in considering as basic to any resistance to

sound community planning. The New Town concept is not a panacea to all evils of unplanned development. All New Towns are not good simply because they are New Towns. They have to be located properly, they have to be designed properly, they have to be financed and engineered, administered, and sold. All of this has to be done with intelligence, adroitness and capacity for the understanding of what the word enterprise really means. Above all, they must be part and parcel of a real program which has as its basic philosophy the building of better communities and the building of better cities than we are doing at present.

The objective of building better communities and better cities than are presently under construction, is one on which it is difficult to get agreement. Many homebuilders, many architects are satisfied with the piecemeal system which has been going on for a long time partly because there is a continual demand for single-family houses sold singly and built one-by-one across the countryside. "The devil take the hindmost." The devil also will take our children and our children's children who will have to suffer from a misuse of land and from the waste and disorder of our biggest man-made resource.

The trick in moving from brinkmanship at the edge of chaos into orderly and attractive growth has now been reached. In some instances, we have fallen into the abyss and it will take an act of God, or at least a major act of man, to cure urban evils that we have created in recent years. All we have to do is to look around to see what these are. On the other hand, in some places it is still possible to begin to order and to direct the growth of communities into a form, a logical and attractive pattern. We had better begin at once.

The Forms of Urban Growth

The forms of community development are continually under discussion in hypothetical instances. We are talking continuously of satellite towns, of ribbon development, of greenbelts and of many other generalized types. Actually, the right form will develop from a rational study of circumstances in any one locality. Natural and proper plans for new community design are based on population growth and its requirements, are based on climate, topography, drainage, communication systems that make sense, and many other factors which must be taken into consideration.

The design of new communities is a complex but not an insoluble problem. It is a challenge to the individual architect, city planner, homebuilder, developer, and to all ranges of public officialdom. The financing of new towns requires many things

which are not considered in the present financial structure of urban development. Other countries are more progressive than we are in these matters as indicated above. Legislation in connection with rational plan development of suburban growth also is deficient and has progressed much more rapidly in other countries than in the US. There is nothing to indicate from experience in other countries that either the homebuilding industry or the architectural profession would suffer by a planned program for development of new communities. To date, no such effort is really under way.

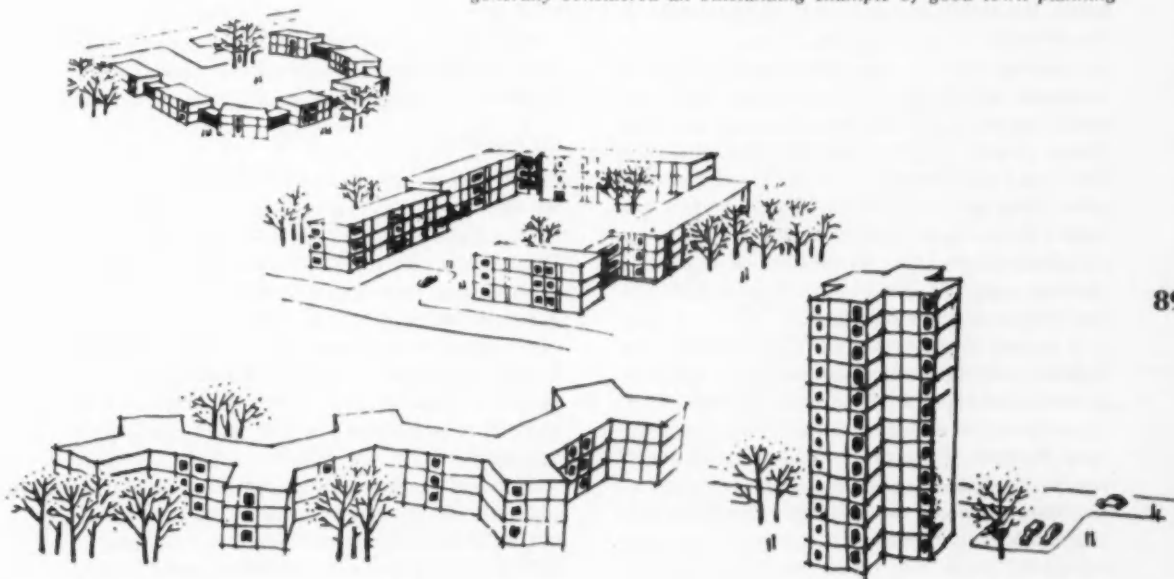
There are many research projects on metropolitan government and metropolitan development, the financing of metropolitan public utilities and the programming of widespread regional activity. Much of this is at a very high level of theory and only in a few specific instances has it come to grips with or been grounded with actuality.

Struggles for the development of metropolitan governments overshadow what it is that metropolitan government actually is intended to do. Much of what it is intended to do must be the coordination and the regulation of community design and growth. It is difficult to see how such growth can be properly administered unless it is in accordance

with a pattern for community design which is more rational than the pell-mell of our present laissez-faire method. Certainly, the business of sound government must take another look at present development methods. Therefore, it is going to be safe to assume that once we have established rational forms of metropolitan government these metropolitan governments are going to be compelled to consider the development of new towns as within the compass of their jurisdiction. Present pitiful zoning and subdivision controls are already obsolete. The results prove it. They don't *do* things. They prevent.

It is therefore suggested here that irrespective of the pattern of development or method of financing of New Towns we add the term to our vocabulary. New Towns must be added to Federal, state and local legislation and to schemes for metropolitan government. When you sum up all the jobs that need to be done to tie together the housing industry, public works, schools, highways, business and industry, in development programs of which this nation should be proud there can be no other conclusion. This is the next job for the architect, the homebuilder, the planner, and everybody else. ◀

Some of the housing units at Vallingby, a suburb of Stockholm, Sweden, generally considered an outstanding example of good town planning



► A remembrance of how things came about is helpful in assessing their validity today. Urban disorder and overcrowding in the nineteenth and early twentieth centuries stimulated communities to initiate zoning in an attempt to protect the public health, safety, and welfare. It was concerned primarily with the insurance of adequate space, light and air, and the protection of property values against juxtaposed undesirable or substandard developments. Zoning legislation at best has been a negative thing, consisting of prohibitions. Consequently it never has been able to exert a positive or constructive influence to actively promote a well-designed community. The abortive attempts to zone stylistically have been repudiated by the courts, but even if they had not been, we have come to recognize that it is no more difficult to design an ugly Georgian house than an ugly contemporary one. Stylistic tags have nothing really to do with livability or elegance.

Today, of course, all forms of civic development are governed by zoning regulations, industrial and commercial as well as residential. But our concern with housing problems centers primarily around the question of residential areas.

Rigidity in any form is questionable. There has been much documentation of rigidity in building codes resulting in undesirable restraint on technical invention. We must also admit that rigidity in zoning legislation has restrained design invention, and in the former case as well as in the latter, the result has been not only restraining, but wasteful.

Recently, however, we have begun to observe tendencies toward flexibility, on a limited scale, replacing some of the rigidity in zoning legislation. Insofar as residential areas are concerned, this flexibility has taken the form of the admission of some other activities or classifications into residential zones, such things as parks, schools, shopping facilities, and the offices of professional practitioners: doctors, dentists, lawyers, architects, engineers, accountants, and so on.

A second tendency toward the admission of a little more flexibility in residential zoning has made us somewhat more prone to mix residential types in juxtaposition with each other. There is a tendency to allow duplexes, for example, on corner lots in otherwise single-family areas, or in certain restricted parts of single-family areas. There is also a tendency in some of the more recent redevelopment projects to try to produce a balanced

ZONING

An unorthodox approach to a too-familiar problem sometimes stimulates thought and even action. The Editor awaits with interest to see the reader reaction to Mr Cramer's proposals. He is Assist-

community by mixing residential types within a limited area. I endorse these developments, and would like to take a further step in proposing a third kind of flexibility, elements of which may be under consideration or even in operation in scattered communities. Essentially, however, it is untried. It has to do with the details of zoning rather than the generalities, with the treatment of individual lots and with requirements for circulation.

Our Waste of Urban Space

The two special issues of the British magazine, *Architectural Review*, called "Outrage" and "Counter-attack," have demonstrated to my satisfaction, at least, that we have been wasteful of urban space, especially of suburban space. In an historical sense, the philosophies of planning, which formed the bases for the Greenbelt and Garden City ideas of American and British planners, and even Le Corbusier's *Ville Radieuse*, originated in periods of generally declining population in the West. We now have, as we all know, a period of exaggerated increase in population in the West and even more severely in Asia, and so our point of view now is shifted from one of reacting violently to crowded slum conditions and

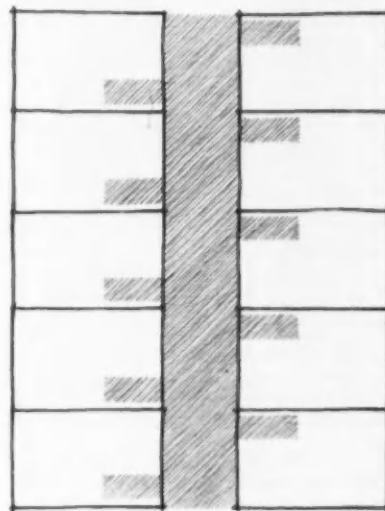
and what
we can do
to improve it

ant Professor of Housing, Department of Home Economics, College of Agriculture, University of California. The Journal will soon publish another article by Mr Cramer, "Images of Home."

spreading out in the fresh air and sunshine to alleviate unhealthful situations, to one almost of shock at the rate of land consumption in suburban areas, carrying with it the sobering realization that we must be more economical of land usage if there is to be any open space at all.

Following this argument, my first proposal is that we reduce the amount of space devoted to the automobile. A quick sketch defining the circulation and setback requirements in a typical small residential community, as shown in Figure 1, demonstrates that in single-family residence areas about one-third of the total space is given over to the automobile. This provides a certain spaciousness and convenience which perhaps has advantages for auto travelers, but shouldn't we put up with crowding on occasions—occasions which bring large concentrations of people to a certain portion of a residential area for social purposes, for example—and accept the really slight inconvenience that it brings about? Some older residential areas with streets which by today's standards are too narrow and would be therefore prohibited, have a much better human scale in the relationship of buildings to circulation space than the looser and more undefined subdivisions that our

FIGURE 1 Space devoted to automotive circulation in single-family residential zones. For an accurate accounting there must be added to the shaded area in this diagram allowances for extra width in occasional secondary and major streets, and allowances for inefficiencies at corners and curves and in excess length in some individual drives.



present laws provide. We might take the attitude in this instance of a civil engineer who pointed out not long ago to a community for which he was doing a subdivision plan that if they would put up with the threat of a minor flood about once every ten years—a few inches of water confined to the streets and walks—they could save many thousands of dollars in drainage costs. The question also arises whether it isn't actually fun once in a while to have an unusual circumstance which makes it possible for children to splash around at the curbs in a couple of inches of water. By the same token, I propose that we put up with a little crowding in the form of parking inadequacy once in a while in single-family residence areas in exchange for narrower streets and perhaps for narrower lots under certain conditions. And then too, every attempt to devise new street patterns taking advantage of cul-de-sacs or other circulation space-saving arrangements should be encouraged. There are many examples of older street patterns with narrow pavements in which traffic naturally moves more slowly than on the wider straight or sweepingly curved newer developments. It is a serious question as to which is safer. Here is a fit subject for research.

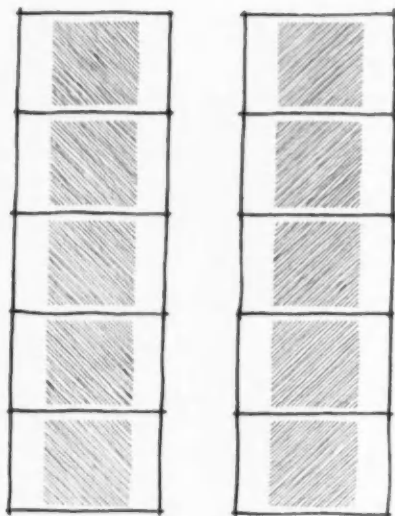


FIGURE 2 Building space in single-family residential zones. The area is about twice the size of the houses which can be expected in this kind of development except in minimal developments where it is somewhat less than twice the house size

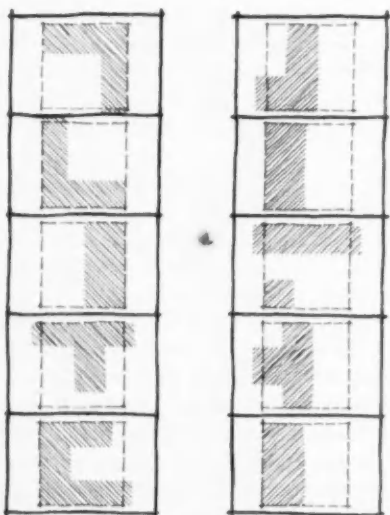


FIGURE 3 Single-family residential zones with a provision for compensatory setbacks. Schematically it is evident that possibilities for design are enhanced and frontal monotony relieved

Figure 2 shows the areas which may be occupied by buildings in a typical residential community. One's reaction immediately is one of monotony and of unnecessary rigidity. The development which inevitably takes place under this kind of zoning legislation is one in which the fronts of all the houses are lined up exactly, block after block in the community. There has been an exaggerated attempt to alleviate this condition by introducing curved streets to replace the gridiron street pattern, and there is a good deal of merit in this approach to the problem. However, as in many things, we have gone overboard in the introduction of curved streets to the point where it is almost impossible for one to find his way through the curved maze of a typical suburban subdivision. It is likewise impossible to give directions which someone else can follow to find a particular house. And it is clear that excessive curvature in subdivision street plans is wasteful of space because fewer houses can be included in a parcel of land than could have been accommodated in a gridiron plan. I would like to argue for the kind of subtle irregularity in street patterns which appeared in old English towns, for example, with their closed views resulting from but slight changes in street directions, and would like to suggest that communities place some restriction on the excessive curvature of street patterns with which they are now plagued.

Beginning with the zoning patterns illustrated in Figure 2, flexibility can be added in two ways. One, within the law, by providing for compensatory setbacks, allowing a certain portion of a house to protrude into the front yard if in exchange a second portion stays well behind the setback line, giving at least the original total area of front yard, perhaps more. The same treatment can be extended to the back yard and to side yards. This system, illustrated in Figure 3, would produce a more varied frontal effect in the street and, in terms of livability, would give the owner a better chance to develop the property to suit his needs and likes. Actually in many cases more light and space is achieved by allowing a slight infringement on the setback line at one point or another because the form that the house then can take provides for extra open space. Our laws do not take into consideration the fact that in one instance a very small or restricted element, even a point of a building, protruding across a setback line with compensating setbacks, may well produce a greater sensation of light and space than the case in which the building in its whole length rests on the setback line entirely within the

law. Furthermore, geometrically conceived houses wherein changes cannot be made in one or two elements without changing the essential configuration of the plan, would be benefited by compensatory setbacks.

A second element of flexibility can be introduced by upgrading the education and experience of building inspectors or city engineers, as the case may be, and of giving them greater freedom of judgment within the law so that they may interpret the intent of the law rather than be bound by dimensions of setbacks to the nearest inch. And of course in the case of tract developments, of communities or segments of communities designed simultaneously rather than as an accretion of individual houses developing on lots over a period of time, it is not only possible, but quite likely, that a well-designed subdivision, one designed by an experienced architect, can produce more light and air and spaciousness in a restricted or confined area than could be produced in a larger area abiding by the letter of the law. In the latter case a whole subdivision plan should be developed, that is, the law should make it possible for such a plan to be developed by an architect, and then considered on its merits rather than on the basis of whether or not it complies with a restrictive law which probably is irrelevant to the particular situation at hand.

It is easy to demonstrate the rigidity of present laws; for example the laws as written in most communities do not distinguish between two situations. The first finds a bedroom in each of two adjacent houses of the same plan, but reversed, with their windows facing each other at a distance of ten feet, the property line lying at the midpoint. This is clearly an invasion of privacy, but it is quite legal. On the other side of the house, one usually finds two blank garage walls facing each other, again at ten feet, and again with the property line midway between them. Obviously, there is a world of difference between these conditions, and an element of flexibility should be introduced into the laws to allow for some kind of intelligent distinction.

Two forgotten house types

But I would like to go beyond the suggestion that flexibility be added to existing zoning legislation and suggest that a more substantial change be undertaken. Historically, two of the most elegant, functional, and generally satisfactory house types which have occurred in residential parts of metropolitan areas have been the courtyard house of Greece and Rome and the Mediterranean coast in

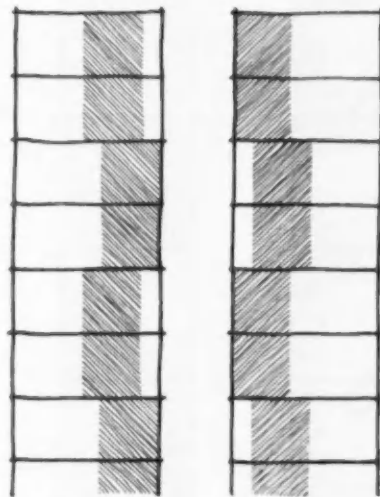


FIGURE 4 Row-house zoning. The lots can be reduced in width by about one-third. This still affords a much lower density than that to which we are accustomed in existing row housing. Alternately the buildings might well be arranged in park-like settings but private outdoor areas should not be sacrificed

general, and the row-house of western Europe from the Middle Ages to the present day. In many cases in suburbs we try to produce very inexpensive single-family detached houses, the kind, for example, which were financed under the GI program immediately after the war. There seems to be an American prejudice for free-standing houses, yet any objective analysis reveals that a much more livable condition can be developed if row houses are used to satisfy this need. Land would be used more economically, and correspondingly utilities and streets would be less expensive. Row-houses need not be associated with the underprivileged. Recently a revival of interest has occurred in places like Louisburg Square in Boston and Rittenhouse Square in Philadelphia in spite of the age and density of the buildings. With intelligent design privacy and light and air and outdoor space can be provided quite adequately. I would like to suggest, therefore, that residential communities consider seriously the possibility of special areas zoned for row-houses with, of course, adequate provision for automobiles and fire protection. In the same breath, I would like to suggest that communities, especially those in milder climates — the Southwest and portions of the Northwest and Southeast — have separate residential zones which would not only permit, but require courtyard houses. The house need not surround the space completely, but may on two or three sides with walls on the others. Figure 4 shows schematically row-house zoning, and Figure

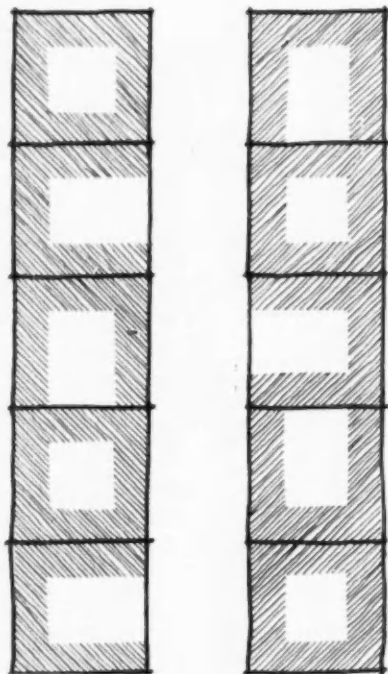


FIGURE 5 Courtyard zoning. The lots can be reduced in depth by about one-third without sacrificing light, air, and spaciousness, given inventive design. The density is comparable to that in row-houses, but street utilization is less efficient

5 courtyard zoning. As indicated earlier, there are many instances in which the restricted side yards of our present zoning really fail to produce privacy. On the other hand a properly designed party wall in a row house or a courtyard house can more effectively provide privacy. Certainly a se-

cluded court removed from street noises contributes substantially to the provision of privacy—witness some of the delightful developments in the French quarter of New Orleans.

Row-houses and courtyard houses, of course, give an entirely different character to the urban or suburban street, but this character is no less desirable than that which is produced by the free-standing individual house. A patterned variation as indicated in Figure 4 can be achieved if desired. From the pedestrian point of view, an occasional glimpse into a courtyard enhances the spatial quality of a street. At any rate, the sense of order of Pompeii and Bath have long been admired as residential prototypes. The problem clearly has its solutions—contemporary Mexico has some elegant ones.

Initially these new kinds of zoning should be undertaken on an experimental basis in prescribed areas. It is probable that there always should be some separation between suburban areas with free-standing character as opposed to those with a continuous front. This is a problem which needs further investigation and definition.

To summarize my arguments, current residential zoning is unnecessarily rigid and therefore wasteful, and actually is self-defeating in that it produces monotony and at the same time does not guarantee the light and air and privacy that were intended. And so certain changes should be considered in residential zoning which would result in more compactness and greater flexibility, thereby improving the possibilities for suburban house and neighborhood design while at the same time economizing the demands for space. ◀

Elevation variation of house shown on pages 86 and 87. Architect, Robert C. Broward, AIA



Mr Jones is Research Professor of Architecture at the University of Illinois, Urbana, Illinois, and Director of the Small Homes Council—Building Research Council. He points out below the extent to which the design of homes is given consideration in one of the nation's major architectural schools.

► Undoubtedly there are many different methods and practices used in the teaching of residential design in architectural schools today, but it is obvious that in the short space of this article it is impossible to consider fully these various methods. It seems more appropriate in this case to discuss the work at one institution, (i.e. the University of Illinois) with which the author is best acquainted.

The term "residential design" does not appear in the list of courses offered by the Department of Architecture of the University of Illinois; as a matter of fact, all of the nine undergraduate courses in design are simply called architectural design. The approach to the teaching of design is not aimed toward the attainment of skill in any one type of building serving a particular function; rather the intent is to develop the students' ability to solve any design problem following a rational procedure. The case study or design problem method is used, but the problems chosen are selected for the basic principles they introduce as the student's knowledge, skill and experience increase during his school life.

In developing its program, the architectural design staff of the Department of Architecture of the University of Illinois has considered the 4½-year design sequence as a whole subject, and has designed the entire program so as to guarantee the student a well-rounded program of design study. Design problems are planned so as gradually to introduce buildings of increasingly complex functions and of different structural types. Commencing with an introductory period during the second semester of the first year, the student is introduced to drafting techniques, rendering tech-

Residential Design in Architectural Schools

BY RUDARD A. JONES, AIA

niques, and the principles of scale, proportion, value, and color. The entire second year of the design program is devoted to the design of buildings of simple function, and to the exploration of architectural expression. Here the design problems are related to some of the basic structural systems—wall-bearing structures, post-and-lintel structures, long-span structures with repetitive bays, and vault and shell structures.

At the beginning of the third year the emphasis of the program shifts toward building function. During the third and the fourth years, a series of seven design projects serves to develop the students' abilities in solving design problems of increasingly complex functions.

The first of the building types studied is a single-family residence. The emphasis of the design problem is upon function; the solution must provide for the individual human needs and relationships within the dwelling space (interior and exterior). Although the primary consideration is to solve a functional problem, the design committee's program further states that it is "expected that, in addition, each architectural design problem will emphasize all esthetic considerations of space relationships, form, proportion, scale, texture, color, etc., as well as structure, use of materials, and professional quality of presentation." Thus it can be seen that the problem of the single-family residence forms a vital link in the total design program, but it should be realized that the residential problem is a means to an end rather than the end itself. The purpose is to train good architects. It is also clear that the emphasis here is on a special individual problem, and is not on housing such as characterizes the mass developments in our metropolitan areas of today.

The fifth-year program offers an opportunity for an additional study related to residential design. A major problem which is intended to give the student experience in large-scale, horizontally composed developments is scheduled. Very often this type of problem may include the study of subdivision developments as related to single-family housing.

Thus it can be seen that through the planned course of nine semesters, every architectural student at the University of Illinois is given at least one experience in the design of a single-family residence. It should also be pointed out that this experience is related to the general basic design problem—that of providing a structurally sound and esthetically pleasing structure to meet a given set of functional requirements. No specific effort is made to study the problem of the production

house, although this aspect may be included in the program if desired at the time.

In the senior or graduate year the architectural student has the option of electing the course, "Urban Housing." In the name of this course the word "urban" connotes "not rural" and, therefore, the course includes problems in single-family houses, apartments, and other specialized housing units. The urban housing course is not a design course, but its contents do provide the student with additional background information which will make him more suited for the solving of the design problem of the mass-produced house. The studies are aimed at developing the necessary criteria for writing programs for houses that will function most suitably for the general public, as opposed to the specialized problems of designing for an individual family, which are normally considered in the regular design course.

The course in urban housing is fundamentally aimed toward the idea of determining how the housing needs of the American public may best be met, and how the various professions and businesses concerned with the problem may best contribute to this effort. For the architect, a new approach is necessary. He is no longer concerned with the design of a specific house for a specific family; he must now design a house or a series of houses that will be suited to a number of families. One might almost classify his function as "product design" as he is designing a product for an unknown ultimate user. His immediate client is a merchant, and the architect's success is in part measured by the market acceptance of the product designed. This type of architectural problem is more demanding than the single-residence problem for very often it will be necessary for the architect to make extensive studies to determine what the future home buyer for whom he is designing really needs and how much he can afford to pay. Now he must establish a hypothetical client that will best represent the public that is to be served.

Since housing need is created by people, the student is first acquainted with the study of demography. Statistics of births, deaths, family formation, population migration, characteristics of families, etc., are studied.

Remembering that the success of a single-family housing development depends upon its market acceptability, other factors relating to demand must be examined. The present housing supply—its kind, type, quality, condition, age, and occupancy must be evaluated.

In designing this product—a house for sale—the architect needs to be aware of the amount of

money the prospective owner can afford to invest in the product, and, therefore, it is essential that he have knowledge of the financial resources of the prospective purchaser and also of the means of financing available to the purchaser which make it possible for him to assume the burden of buying a house.

From these studies and from others of a similar nature, the student learns to recognize the necessary data that must be gathered and evaluated before a house or series of houses may be designed for a given area.

As further background for the design process, the student is acquainted with tools and aids that are at hand to help in the design and the production of the house. The many facets of the home-building industry are discussed—its builders, its workers, and the production and distribution of building materials. Modern production techniques and construction methods are considered. The student becomes familiar with the application of modular coordination, prefabrication, panelization, tip-up wall construction, component construction, the open-room building technique, truss-roof construction, and other cost-saving mass-production methods.

As a further prelude to actual design process, the student is introduced to research studies which have been made in the planning of residences. The kitchen studies at the Small Homes Council—Building Research Council (a University of Illinois Research Agency), and the Housing Research Center at Cornell University, are reviewed. Similarly, the Small Home Council project on bedroom dimensions is studied, and it is pointed out that square foot area specifications alone are not satisfactory for adequate design, but that certain minimum dimensions are critical if bedrooms are to accommodate the necessary furniture in a manner which will allow its efficient use. Other spaces in houses are studied in detail, including storage space, laundry areas, etc. The way in which the family uses a house is emphasized. Problems of basic room arrangement and circulation are analyzed. As far as exterior design is concerned, the judicious use of materials is considered, and the importance of simplicity is stressed. Special emphasis is given to methods of obtaining satisfactory variation in large housing projects through the appropriate use of color, texture, and material changes, as well as variation through changes in site design, garage location, and the like.

As can be seen from the resumé of course content above, the course in urban housing cannot be strictly called a course in residential design; how-

ever, it does offer valuable training and background information to those architects interested in specializing in this field.

The University of Illinois has not limited its education in residential design and construction to graduate and undergraduate students. The subject is extremely important to those persons who are actively engaged in the residential construction field, be they architects or builders. The Small Homes Council of the University upon request of the Chicago chapter of the AIA offered a special course having to do with the design and construction methods applicable to the mass-produced house. This series of evening classes covered the general aspects of house planning and house design, including instruction on individual room planning, circulation patterns, and types of houses. Additional lectures were given covering the subjects of economical wall framing with special emphasis on modular coordination of products, construction methods, truss construction, application of plank and beam construction, open-room technique, etc. Also considered were the coordination of the services in the house with the foundation, floors, walls, and room construction. Problems of providing proper heating, adequate plumbing, water supply, and suitable lighting and wiring were discussed. This program was a presentation of the Small Homes Council and the University Division of Extension.

The Small Homes Council also offers certain short courses in residential construction to builders, lumber dealers, and mortgage lenders. Here the emphasis is not on the design process, but rather on the development of a critical sense as far as concerns both the appearance of the house and its provisions for accommodating the family that must live in it. Individual builder's plans are analyzed and criticized before the group; both good and bad points are mentioned. Similarly, exterior designs are criticized, in order that the builder may become more familiar with the characteristics of, and the need for good design.

As mentioned previously, this is one architectural school's contribution to the development of good residential architecture. It is obvious that the subject is considered and taught in a number of different ways for the differing needs of the students, be they undergraduates, graduates, or post-graduates. It is also clear that more than adequate instruction is available in this field, and the wider application of architectural services in the field of design for the mass-produced house awaits the fuller utilization of the instruction that is available. ◀



It is always good to present both sides of any discussion. Mr Jacobs, who is President of the well-known firm of Fox & Jacobs of Dallas, presents his reasons for employing a staff

Why I do not retain an Architect



C. J. Laughlin



architect instead of retaining one on a professional basis. He adds in his letter that the homes illustrated were well received by the public, since he sold 750 in three months.



I. B. Lindenthal

► In considering the proper relationship between homebuilders and architects, I think we must first examine the requirements of the large-volume homebuilder.

First and foremost, I would say he must be able to translate his experience and ideas into a working reality. This, of course, can be accomplished through the use of architects, through designers who have had no formal architectural training, or it can be done by a builder himself. I feel that the problems in designing a product to be mass-produced are quite different from designing a specific house for a specific family on a specific site, to be built only once. The architect, by inclination and training, is oriented for the latter. That is, he considers each problem in light of the specific facts that affect it. He is not oriented for designing a structure for an unknown occupant to be placed on an unknown site. The builder on the other hand is completely at odds with this concept. In fact, the modern homebuilder is more closely allied to the manufacture of mass-produced items than he is to the builder or contractor.

If the problem is examined in the light of the above, several trouble areas become apparent in using outside architects:

- 1 The architect in general is not interested in this type of work.

- 2 It is very difficult for both the homebuilder (manufacturer) and the architect to find sufficient time to establish the proper working arrangement.

- 3 The problems of each individual builder are entirely different. Therefore, the generalized knowledge of the architect would not be applicable in all cases.

- 4 The requirement of secrecy—people are in and out of architect's office and their plans are available to many draftsmen. The chances of plans becoming known by competition in advance are somewhat greater than if no outside architect was involved.

The benefits of retaining an architect are as follows:

- 1 Better talent available.
- 2 Cross-fertilization of ideas
- 3 Greater flexibility.

We, as volume builders, must find the most economical mechanical structure possible with the

most esthetically desirable features. Obviously, the architect can contribute a great deal toward this end, as can the man who is trained in the actual building of houses. Who knows better how the thousands of pieces of a house should be put together than the man who has been doing it. Therefore, our problem is to combine the esthetic training of the architect with the experience and the engineering concept of the forward-thinking homebuilder.

Our solution to this problem has been to hire for our staff, a registered architect, a trained industrial designer, who has studied design not only from the standpoint of production methods, but from the esthetic standpoint, and an architectural engineer. This, then, makes it possible to have close cooperation between the client, who would be Fox & Jacobs in this instance, the architect, who is a Fox & Jacobs staff man, the industrial designer, and the architectural engineer, as well as experienced production personnel.

Our approach is substantially as follows:

First, the basic concept of the space layout is worked out by one of the principals of our company. This is then refined by the architect, industrial designer, and architectural engineer. The rough space layouts are then gone over by the Sales Department and Production Department of our company. At this stage, we have pretty well frozen the basic layout. The esthetic qualities are contributed by both the industrial designer and the architect, as we feel they each have contributions to make along this line. The final plans are then worked out by the Architectural Department, which, of course, is under the registered architect.

All the while, our Industrial Engineering Department is checking for standardization of parts and procedures to be sure that we are using the most economical products consistent with the quality desired.

Finally, after plans are almost finalized, they are gone over once again by both Production and Sales to insure that everything desired is incorporated. Obviously, this is quite a time-consuming process, as each item in the house is gone over in detail, even to the location of switches and thermostats. Of course, this close cooperation would be impossible between a busy fee architect and our staff. There would be no point in our hiring an architect for his reputation and not getting the use of his talents. Many times we deal with a professional man in the initial conferences, but end up working with a hired man under him who does not provide us with the services desired and for which contracted.

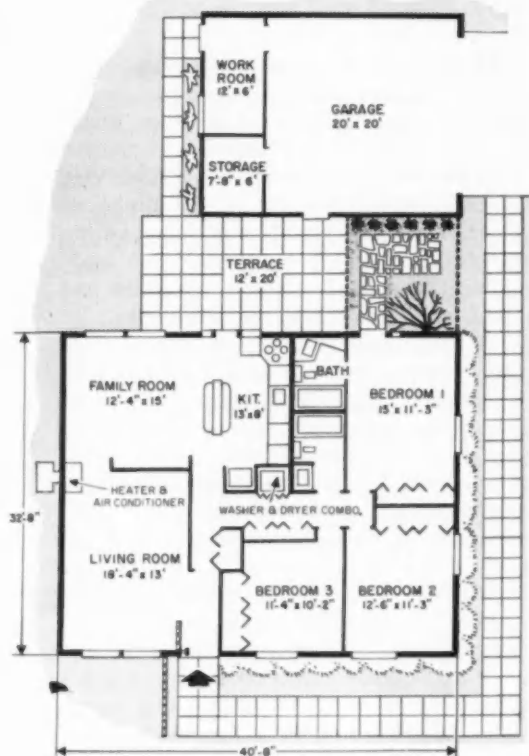


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After plans are finalized by all departments, they then go into working drawings and are completed. This system has worked quite well for us.

In summing up, I would say that there is definitely a place for the architect in the home manufacturing industry. However, I firmly believe he must be on the staff of the homebuilder in order to insure the necessary cooperation that will produce the best-looking and most livable

house for the least possible dollars. I sincerely believe one of the crimes of our modern age is the lack of beauty in homes that are being produced in this country today, and I certainly believe that closer cooperation between architects, industrial designers and artists, if you please, to contribute towards a more beautiful and livable product is in order. However, the problems of accomplishing this are Herculean in stature and will not be settled until the fine architects of this country are willing to recognize there is a contribution to be made in this field, and do not reserve their talents for the construction of large monumental edifices such as hospitals, office buildings, auditoriums, etc. The crying shame is, in fact, the lack of interest in homebuilding by the fine architects of this country on the one hand, and the lack of interest in producing an esthetically satisfactory product by the homebuilding industry on the other. Perhaps if each side could give a little we would be able to do the kind of job that the American people deserve; that is, produce beautiful and liveable homes for the least possible dollars. This should be the creed of both the AIA and the NAHB. ◀



Kensington, Maryland



South Bend, Indiana

NAHB Homebuilding Research

BY RALPH J. JOHNSON

Mr Johnson is the Director of the Research Institute of the National Association of Home Builders, which has carried on extensive research and has built several research houses. The floor plans (above and on the top of page 102) show the use of modular dimensioning and its important relation to the use of modular-dimensioned interior and exterior wall components and modular roof framing systems.

► Homebuilding research will have an important influence on design. This effect can already be seen in the three Research Houses which the NAHB Research Institute has built as well as in some other contemporary homes. Most importantly, however, homebuilding research will make it possible to provide homes with more value as a place to live.

Research is defined as a "studious inquiry, usually of a critical and exhaustive nature, having for its aim the revision of accepted opinions and conclusions in the light of newly discovered facts." Homebuilding is probably the most over-regulated, tradition-steeped and hamstrung industry in the nation. This may be attributed to the abundance of "accepted opinions and conclusions" and the lack of scientific facts and knowledge. Obviously, this condition is a major deterrent to progress. Therefore, research to find new facts is the

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Knoxville, Tennessee

key to progress in science, in industry, in medicine and, of course, in homebuilding.

Before World War II, the homebuilding process could be described as a craft. Today, builders produce new homes on the "for sale" basis and the homebuilding process is well on its way to becoming an industry. As long as the craft approach to building was the rule, and the cutting and fitting of each of the thousands of pieces on the site was common, research facts had relatively less meaning; but today, with production engineering management methods being applied to the homebuilding process, research knowledge of the construction process can be readily applied and used.

There is at least one clear-cut example of the value of homebuilding research in Denmark. Studies have shown that new facts and information obtained by practical, technical laboratory research on homebuilding were worth 5,000 times the cost of that research translated into savings on all houses produced. If we are conservative, and assume that research savings can be used on only 20% of the houses, then the benefit cost ratio is still an astounding 1,000 times. This is true in a country which produces only 25,000 homes per year. The potential benefits of research are even more amazing in America where we have a production of well over a million homes a year. Furthermore, it is axiomatic that the younger the science or the industry, the more profitable the

research is likely to be. Certainly homebuilding as an industry is indeed young in America.

The basic objective of the NAHB Home Building Research Program is to help builders and the industry produce a better house for a lower cost in all price ranges. A corollary objective is to develop this sufficient scientific knowledge to make it possible to design the house for the forces, loads and climatic conditions which it must resist and the needs of the people who will occupy it.

While it is easy to state this objective, all those in the industry know that it is exceedingly difficult to achieve. This is particularly so when we reflect on the practicality of the homebuilding market place. It is apparent that Americans are slow to accept change in the homes which they are willing to buy. Accordingly, progress may be revolutionary in nature, but for the most part, apparently it must be evolutionary in character.

In addition, the researcher in homebuilding is plagued by "lead time." Typically, there is a five- to seven-year lead time necessary in the development of a new product from initiation of research to availability in the market. During that period, materials, equipment, construction methods and market acceptability can so change as to antiquate the new items even before they reach the market. The problem then is to try to identify today, what will be needed, useful and accepted five or seven years from now. To do this effectively we find that it is necessary to work within the framework of certain guiding principles which are also trends in actual construction practice.

Our research program is carried on within the framework of these and related principles.

Reduction of total amount of on site labor

In the past decade, the weighted average of homebuilding labor costs has risen about twice as much as the cost of materials. It is self-evident that many direct benefits can be achieved by reducing on-site labor. In addition, there are many indirect benefits. In a typical frame house exterior wall there are some twelve to fourteen layers, including paint, each applied as a separate labor operation. In our first Research House built in Kensington, Maryland, we decided to try to reduce the number of these layers. Actually, the exterior wall in that house has only five site-applied layers including three exterior coats of paint. This was achieved by the development of a single layer of exterior material which served to replace siding, sheathing, diagonal bracing and building paper and combining that into a panel containing the wall framing and insulation. After

this was set in place, a single layer of pre-finished panelized gypsum board was attached with three blind nails per 16 sq. ft. on the interior surface.

Reduction of the total construction time

Anything which contributes to reducing the total construction time will materially affect the total cost of the house structure. Today, more than a few builders are regularly constructing houses in fourteen to fifteen working days above the slab. Typically, four of these days are used in the application and finishing of the interior finish. A breakthrough in this area would make it possible to build a non-custom house in ten working days. On the basis of current developments, it may be predicted that it will be possible by the end of the next decade, to build a house within five working days with a normal size crew.

Increased use of component construction

Components in our terminology are merely larger parts that fit with each other rather than a number of smaller pieces which must be cut and fitted on the site. The true component part is as nearly finished in all respects and has as much labor done to it in the factory as possible. Of course, it is designed especially for use in the homebuilding industry so that it will best serve its "in-place" functions. All of the Research Houses which we have built have utilized component construction. The South Bend and Knoxville Research Houses had component wall sections that had both skins applied prior to arrival at the site. In the South Bend House, this even applied to the roof sections.

Modular dimensioning and construction

The acceptance of modular dimensioning has been increasing rapidly and may be expected to increase more so in the future. It is inherent in the concept of component construction that the parts must fit with each other. They must be dimensioned in accordance with a widely used and recognized system. Modular dimensioning and construction in homebuilding saves material, increases productivity, lowers construction time and reduces wastage. Progress in this field has been made in the structural elements of the house. There remains the need to apply this principle to the mechanical system and appliances.

Combine the functions of material and equipment

In the South Bend Research House, a new building component was used. The structure was

put together with stressed-skin foam polystyrene core panels for interior and exterior walls and roof. Therefore, a single layer provided all of the multiple functions of typical wall and roof sections. The next step is to incorporate the heating system and the electrical distribution system into these building units. As multiple functions are incorporated into the complete parts, the price of the part may be expected to increase, but properly designed, the cost of this part in-place may be expected to decline.

Reduction of total weight

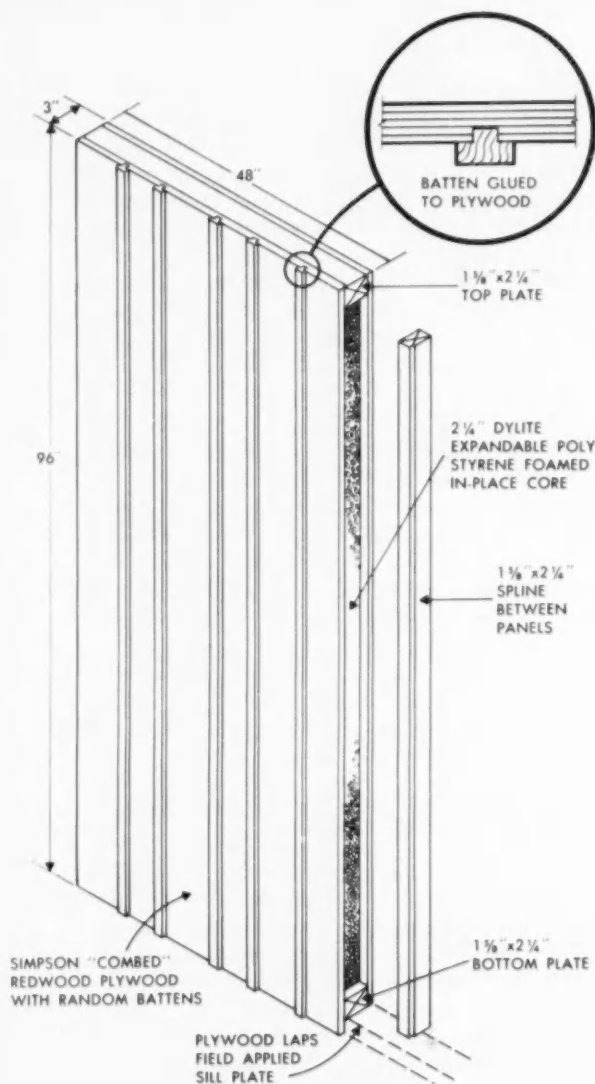
As more component parts are made and finished in factories, the weight of these parts in re-shipment has an important bearing on their total cost. Likewise, any reduction in total weight simplifies on-site storage, movement and placement. However, it is necessary to develop lighter weight parts in concert with the structural requirements—such as the increased structural efficiency of stressed-skin design, the applicable requirements for sound transmission loss (usually related to total mass) and, of course, market acceptance related to typical dimensions.

Improvement of production engineering management of the construction process

Perhaps the greatest opportunity for improving quality and reducing costs is in the improvement of the actual production process. Any new material, equipment, method or product which makes it possible to design, purchase, store, handle and place in a logical order contributes to this principle. In order to do this effectively, there must be available component parts for the entire house which provide for wide flexibility of design of the end product. It must also be possible to phase the on-site labor process in relation to the logical order of construction rather than as it is related to trades, or materials.

Improved fastenings

There is an increased use of glues and adhesives to fasten the various parts of the house together. There are something in the order of a quarter of a million hand movements involved in the nailing together of a small house. Many of the nails on finished surfaces must be set, puttied and painted over. Gluing can also have structural advantages by increasing the efficiency of the materials that are used. In addition, glues or adhesives can provide an important indirect opportunity for savings when pre-finished surfaces need not be marred by surface nailing.



Stressed-skin wall panel design

Reduction of the effect of weather on the construction process

The cost of weather in homebuilding is high. An attempt is being made in the NAHB Research Institute House being built in cooperation with Michigan State University at Lansing, Michigan, to develop and "design out" as much as possible, the hindering effects of weather. Consequently, research into the development of a panelized product that can be placed below and on grade was initiated to eliminate or at least substantially reduce on-site concrete and mortar work. In addition, research was undertaken to develop exposed sealants and coatings which could be applied both in the factory and in the field during inclement weather.

Development of new products, materials, equipment, methods and ideas

We have been fortunate in obtaining excellent cooperation from many manufacturers. In this process, the Research Institute tries to blend its knowledge of the homebuilding process and the needs of the industry with the knowledge of the manufacturer about his raw materials and machinery, to try to produce an item that is especially designed for the homebuilding industry. A few examples can illustrate this principle. In the placement of component panels in the Research Houses it was evident that even with the most careful type of controls, it is difficult to obtain a level sill. Although some tolerance is acceptable with one-story panels, a variation of an $\frac{1}{8}$ " is magnified into a $\frac{1}{2}$ " in a 4' x 16' panel for a two-story house. Accordingly, it became evident that a "self-leveling" sill device was necessary. Conversations with a manufacturer led to the specification of performance and subsequently, such a device has been built and was used in the erection of the house in Michigan.

Perhaps one of the greatest opportunities for improvement is in the development of new ideas, some of which will affect design. For example, in addition to their cost, interior doors have a number of limitations, i.e., closure with the inevitable noise and warpage, difficulty of opening for children and the elderly, and appearance. In considering this problem, the Research Institute decided many advantages could be obtained if the door could be placed "on" the opening rather than "in" the opening and made 8' high as was done in the South Bend Research House. In addition to saving about \$8 to \$12 per interior passage door, this system provides many other advantages: The unique latching action eliminates the turning of door knobs and provides a push-pull action, a special contribution to children, to older persons or to those with rheumatic or arthritic hands; the door swings completely clear of the opening, the latch holds with constant pressure eliminating rattles; the full-height door provides for freer air passage and gives a more open look to the small homes.

Development of new scientific knowledge

Footings for houses typically are constructed on the basis of historic practice within the area. Although experience is a usually reliable guide, blind adherence to past practices rarely leads to progress. Footing practice probably evolved on the basis of two- or two-and-a-half story masonry

or masonry veneer houses. Today, the majority of homes are one-story frame. Obviously, the loads are far different. In the NAHB Research House built in Knoxville, Tennessee, the bearing capacity of the soil was determined and the footing designed on the basis of the weight of the house and the bearing capacity of the soil. This led to a saving of at least \$100 for this 1,050 sq. ft. house. As the NAHB Research Institute Laboratory gets into fuller operation, many more useful scientific facts will be obtained, especially as they relate to full-scale actual practice. Most structural parts are required to be designed on the basis of simple supports unconnected to the other parts of the structure.

Homebuilding research will affect the design of tomorrow's house in many ways. New products with new functions, colors and textures will abound. New component parts containing multiple functions will call for a new concept in design based on new construction procedures. New meth-



Stressed-skin wall panel placement

ods of connections, coatings, adhesives, sealants and tapes will provide many opportunities for either recognizing or concealing joints. All of these will combine to provide the architect with a broad new opportunity to exercise his initiative and talent in the design of tomorrow's homes. ◀



The Research House for 1958 at South Bend, Indiana, designed by the Research Institute of the National Association of Home Builders with Herman York as Consulting Architect. This home utilizes structural insulating panels with interior and exterior finishes molded to a core of Dylite expandable polystyrene foam

BY NEIL A. CONNOR, AIA

Director, Architectural Standards Division,
Federal Housing Administration

► When we talk in FHA of the modern house, we mean the best house for modern living that can be produced and maintained at a reasonable cost. What we try to encourage is housing that will fit people's needs, their sites, and their pocket-books.

From the very beginning, FHA has been concerned with new developments in design, materials, and building methods that would make it possible to build better homes at lower cost. In 1935, when it had been in existence only a few months, the new agency published its Technical Report No. 1, "Recent Developments in Dwelling Construction." Its second technical report, also published in 1935, was "Modern Design." This second report explained the FHA attitude on new developments in this way:

From the point of view of mortgage security, the problem presented is obviously not a simple one. On the one hand, it would be harmful and ultimately useless to offer resistance to a change which is rooted in changing modes of thought and living. On the other, where rapid and unforeseeable change is occurring, the hazards to a system which relies upon stability over a long period are increased. These hazards must be taken into account in order to assure the soundness of our program.

This viewpoint has often brought criticism that FHA drags its feet in the acceptance of new ideas. Maybe some of our field offices have tended in the past to be overly conservative; maybe this is still true. But FHA policy, particularly in the last five years, has been not only to encourage investigation of new principles and methods in homebuilding, but to take part itself in such investigations as far as possible and to help in publicizing new developments.

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A Change in Emphasis

It might be said that when the FHA was established in 1934, and during its first seven years, its main emphasis was on financing methods. Fresh in everybody's mind at that time was the contribution that mortgage foreclosures had made to the worst depression the country had ever suffered. During the war years, up to and after Korea, one might say that the emphasis was on quantity. The FHA was charged by Congress with

F H A

The well-known Mr Connor points out that the FHA has long emphasized the value of the architect's services, and that the Federal agency is doing all it can to encourage improvements in planning, design and construction of today's houses.

a variety of programs aimed at getting as much housing as possible as quickly as possible. By 1954, the soundness of the FHA program was well established and the urgent need for new housing had abated.

A reorganization of the Federal Housing Administration that took place in 1954 marked a change of emphasis in FHA policy. The former Underwriting Division was replaced by two new divisions: Architectural Standards, and Appraisal and Mortgage Risk in an Office of Technical Standards. Although there was no change in the overall function of this office or in overall FHA policy, creation of an Architectural Standards Division emphasized the need for a more careful look at the design and construction of housing financed with insured mortgages and for more comprehensive study of what was desirable and attainable in terms of improvement and cost reduction.

Architectural Standards

The Architectural Standards Division is made up of five sections: Architectural, Building Engineering (including structural, mechanical, and materials units), Sanitary Engineering, Construction Cost, and Standards and Studies.

AND THE MODERN HOUSE

These sections serve as the technical headquarters for the seventy-five insuring offices throughout the United States. In 1934, the construction of the typical dwelling or apartment building in any particular area was fairly well standardized in that area and the job of our insuring offices from a technical point of view was not overly complex. Twenty-five years later, with rapid expansion in technology, it is too much to expect an individual insuring office to be aware of all new developments in methods, materials, and products, and to evaluate them properly.

Minimum Property Standards

Generally speaking, the end results of the technical studies and investigations made in the Architectural Standards Division are channeled to the Standards and Studies Section. This section is responsible for developing and keeping up to date all the FHA Minimum Property Standards and the various related bulletins and letters. To assist in this work, the section has in effect a relatively small research program costing roughly \$300,000 a year.

The results of the research program benefit not only owners of properties financed with FHA-insured mortgages. They extend to veterans also, since the Veterans' Administration uses FHA standards; and, since FHA and VA programs together currently account for about a third of all the housing being built in the United States, it is evident that the influences of FHA standards is pretty widespread.

It cannot be stressed too much that these standards are minimum. There has to be a floor below which, in no circumstances, will the insuring offices go. With more than 7,000 employees in the farflung FHA organization, there is a great need for some sort of standardization in order to avoid

misunderstandings, not only within the FHA but among the people with whom we do business.

Preferred Standards

With respect to preferred standards, FHA can offer only advice and encouragement. For example, we believe that within a few years most houses in most areas with no provision for air-conditioning will be less marketable than those that have it. This of course affects the soundness of loans, and FHA has so reminded its insuring offices. Likewise, the use of electric heat is increasing in many communities where rates for electric current are low. We have pointed out to our offices that, in view of the better insulation now customary, as well as other factors such as new data on the habits of families using that kind of heat, they should take a new look at the cost figures for electric heating.

In stressing quality at FHA, we think chiefly of planning, which involves such considerations, among others, as indoor-outdoor living, privacy, and convenience. In short, our effort is to encourage architects, builders, and our own offices to recognize the new look that changes in living habits and increases in construction costs have helped to create.

For example, in multifamily housing where maximum insured mortgage amounts per room have been established by law, we now allow a balcony to be counted as half a room in order to make it possible to provide this popular feature. We have also revised our room counts for combination living-sleeping rooms.

In determining these and other similar modifications, the help of architects in private practice has been invaluable to us. In fact, the Architectural Standards Division has made extensive use of advisory committees of architects and engineers who come to Washington without compensation to advise us on policy changes.

The development of new building techniques is essential, of course, to providing the most house for the least money, whether we are discussing the advances made in prefabrication, where larger and larger components are being shipped direct to the site with a resulting saving in site labor, or new truss designs incorporating more efficient assemblies, or other cost- and time-saving methods.

The number of requests for FHA acceptance of new materials, such as the many plastics, and new uses of old materials, such as combinations of aluminum and wood, is continually increasing.

The basic principle on which all FHA acceptances rest is that the industries involved shall in

the end be responsible. This means that both the composition and the use of a new material should be vouched for by an association of manufacturers. This principle has frequently stimulated the creation and adoption of an industry standard in order to obtain FHA acceptance.

Architects in the FHA Program

One of the key factors in the work of the FHA Architectural Standards Division is the participation of architects in the FHA program.

In 1954 Congress put into the National Housing Act a requirement for cost certification. This means that the builder or sponsor of a multi-family project must certify to the actual amount he has paid the architect. Under the new procedure the sponsor is precluded from the old practice of skimping on architectural services to reduce his cash equity requirements. After this went into effect, a schedule of fees was worked out with The American Institute of Architects on the basis of an average for the country.

The FHA, of course, in making its own cost estimate, cannot specify the amount that must be paid for architectural services. Its estimate can only reflect the amount actually paid. But, by calling attention to its willingness to recognize what has been proved to be a fair scale of fees, it can encourage builders and sponsors to obtain adequate services.

Convincing examples of the advantages to be gained by the use of professional architectural services in dwelling construction are to be found today in all parts of the country. Builders and developers are becoming more and more convinced that it pays to have the best talent possible to design their housing. Developers have found that good design tends to keep them a step ahead of the market, that it plays an important part in the growth of their business, that it creates better houses, better neighborhoods, and better citizens.

Many of the best-known architects in the country are now designing FHA-insured projects. A number of these buildings have won nationwide recognition within the last few years.

Thousands of FHA homes have been designed by well-known firms, for fairly large-scale developments. It has been more difficult to interest the architectural profession in the design of individual FHA homes, because the smaller single house does not ordinarily attract professional services. Congress virtually limited the total package, including house and lot, to \$25,000 by placing a ceiling of \$20,000 on the insured mortgage. A recent increase to \$22,500 in the FHA mortgage ceiling may attract more architects into this field.

There are advantages in an architect's making permanent connections with builders of tract developments. This kind of work is apt to continue all through the year and can be a stabilizing factor in the usual ups and downs in office workload.

FHA has encouraged, in every way it could, participation of architects in all its programs. Aside from the obvious advantage that a better designed house makes for a sounder loan, architect participation helps to simplify FHA operations by reducing the amount of time and effort required in analyzing submissions.

The public must gradually be educated to accept the good in preference to the bad.

Good taste, good design, and better living in housing should cost no more to build than the bad, and surely should cost less to maintain. Architects can do their part by convincing producers of housing that their services are worthwhile, that today's design for living may well govern tomorrow's economy.

We in FHA are very conscious of this problem, and, although we are limited in what we can do, we take every opportunity to stress the advantages of quality in both the design and the construction of the modern house. ◀

Recent typical FHA insured projects. Left: Capitol Powers, Sacramento; Wurster, Bernardi & Emmons — Edward Larrabee Barnes — DeMars & Reay, Architects. Right: Capitol Park, Washington, D.C.; Satterlee & Smith, Architects



Cost Saving

in Planning Techniques and Details

BY JOHN N. HIGHLAND, JR., AIA

Mr Highland, of Buffalo, New York, feels that the architect can do much to effect cost savings for the builder through flexible initial planning, and he illustrates his article with three house types he has developed in his extensive homebuilder practice. He is a member and former Chairman of the AIA Home Building Industry Committee.

► In order to supply the quality homes required and desired by the American people, and in order to successfully merchandise these homes to an ever-increasingly critical purchaser, the collaborators—architects and builders—must first create a climate of mutual respect and understanding as to the problems involved, and of course, to define the objectives. This obvious first step is not always easy and, we suspect, is the major stumbling block. Unfortunately many builders have established as their yardstick of good design whatever sells—"I'm in business to build houses and for a profit." This approach suggests primary emphasis on engineering for production; standardization of plan; and perhaps, sterility of design in order to produce a volume of houses with the least problems of production. Unfortunately the house that sells best is not necessarily a good house nor is such emphasis attractive to the architect who is asked by the builder to collaborative effort.

The builder, on the other hand, has considerable grounds for being critical of much of the architectural effort by our profession which frequently demonstrates a lack of familiarity with the homebuilding industry and the multiplicity of problems involved. The design of a home for merchandising is materially a different problem from that of an individual home. First, there is the problem of communication. The architect and his individual client have direct communication.

The architect and the purchaser of a builder's home almost never meet and the communication of ideas must filter through the builder, the realtor, and the salesman, the latter gentleman generally being uninformed and indifferent to the architect's planning and design objectives. Therefore, the product of the architect-builder collaboration must be self-evident to the purchaser. There can be no reliance upon explanation.

The architect, in working with the individual client, while having a very small market, generally is in working relationship with people sufficiently individual to seek his services. The design of a production home must relate to broad trends of acceptance besides being self-evident. While this does not suggest that immediate saleability and the latest cliché should be cynically exploited, it does suggest a serious study of consumer preferences, prejudices, but more importantly, the instituting of a broad professional industry public education program. The architect, in the design of an individual home, can create new parts and fresh details almost on an experimental basis with



THE PIVOT HOUSE

Illustration No. 1



little hazard to his individual client or himself. Casual and unresearched design suddenly introducing new materials or component parts can stumble across problems of logistics, and if literally an "egg is laid," it becomes a very large and hazardous omelet. The architect must realize that, while he is willing to risk an idea, he is asking his builder client to commit his working capital, and a major problem can paralyze the builder's program. We suggest, and it has been adopted by the NAHB and AIA, that the objective be to create the finest home that is saleable.

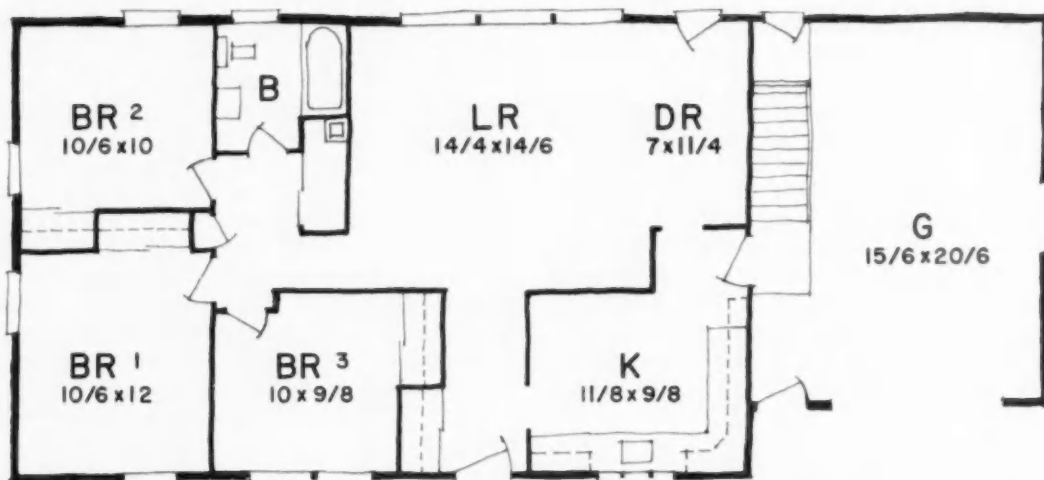
Let us take two basic premises: The economy demands more house for the money; greater efficiency of building techniques; and suggests more quality control through increased use of component parts. Good community planning; public demand; professional preference; and an understanding of the American philosophy all require a greater degree of individuality, a wider range of space requirements serving larger families of broader interests. Therefore, we need standardization but individuality.

Here, we believe, is where we separate the men from the boys—both builders and architects. To oversimplify, it is comparatively easy to design a relatively economical box that can be subjected to mass production. It is relatively simple to design a pleasing community of individual homes for individual clients. More is required to mass produce a balanced community with flexibility of accommodations and individuality of feeling, with standardized parts geared to efficient production. You might describe this concept as the "Pivot Chassis" house.

Being easier, let us take the "Pivot" concept first. One of the most economical ways of achieving variety is to adjust the massing as it appears from the street by pivoting the house on the site, as suggested in illustration No. 1. Properly done, this is evaluated on the basis of orientation and topography as well as variety. The "Pivot" concept requires attention to site planning and, of course, a basic plan concept that is intelligent to pivot. There is little point, for example, in pivoting a typical center-entrance Colonial to be end-on to the street. From the garage one must run around the house to the center entrance on the side or utilize most of the lot for driveway, or have the garage convenient to the entrance but remote from the kitchen. A pivot plan requires extra consideration. We believe most architects will agree that the relation of building to building, and of building to site, is as important as the plan of the building.

As to the "Chassis" house, there is increasing evidence of resistance by the public to being offered as variety of plan in a typical development, six different ways of juggling living room, kitchen and dinette, three bedrooms and bath and a half in 1,100 sq. ft on a standardized lot width. True, a combination of a T-shaped, L-shaped, bar-shaped, or perhaps a Z-shaped five rooms of constant area is better than the repetition of the same space and accommodations in a single shape, but this simply does not recognize either the needs or the merchandising problems involved. A "Chassis" house, as suggested in illustration no. 2, can offer two bedrooms and a bath, three bedrooms and a bath, or four bedrooms and two baths with a repetition of component parts; a repetition of bathroom layouts and all that intersects the balance of the standardized unit at the same point. Such technique permits design of alternate wings in the basic planning that can be pre-priced by the builder so that as homes are sold from a model house, for example, the homes can be customized to provide the number of bedrooms desired and be related to some variety of purchasing budget.

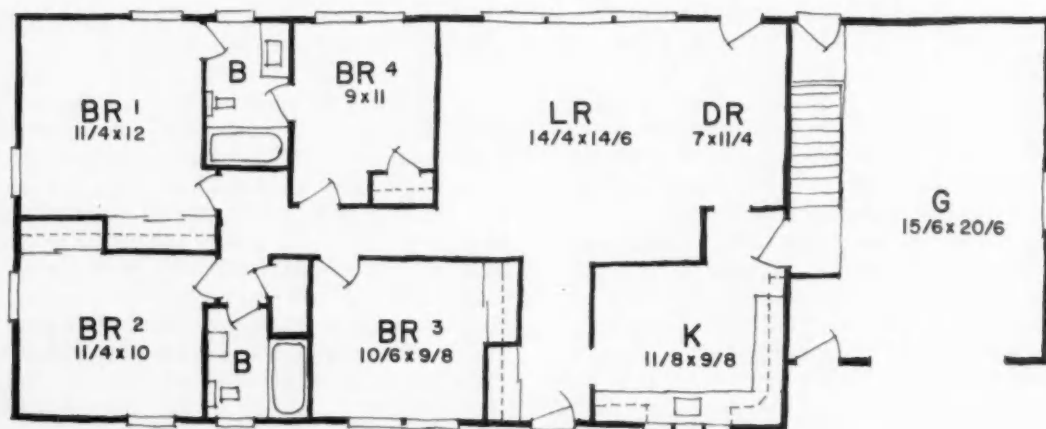
In illustration no. 3 is a demonstration of a technique in which the bedrooms and bath-and-a-half remain constant although these can be, changed, as noted above, but in which we demonstrate a basic plan concept with kitchen and breakfast area in addition to the normal combination of bedrooms and dining alcove. This series or "Chassis" design then adapts to a slab wing related to the garage which permits a family-kitchen tied in to the basic kitchen and requiring only slight modification of cabinet design. In this series you see a family-kitchen to the front; a family room to the side with extra powder room and lavatory; a family room and study or fourth bedroom; powder room or bath to the side. As suggested in the site plan, there are seven or eight different shapes and massing of houses stemming from this same chassis and with a considerable latitude in the accommodations provided with a reasonable spread in sales price. There are only two kitchen layouts required so that advantages of standardization are apparent. There are only two fireplaces suggested. The fact that the family room is on a slab while the balance of the house is with basement and that the slab is, in each instance, adjacent to the garage, provides a most economic way of adding relatively cheap space, and also, nearly freezes the excavation and foundation costs as of a single plan. The builder can easily control marginal costs involving mechanical trades, special floors, tile work, etc.



THE "CHASSIS" HOUSE

Illustration No. 2

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When the "Pivot" plan is combined with the "Chassis" plan, you then have individuality for production!

Incidentally when the massing changes and there is a variety of size, it is no longer necessary to strain for a sense of individuality by means of a smorgasbord of materials, false dormers, little gables and typical gimmicks.

So far, we have been talking about planning which we feel should receive the majority of effort. I was asked to write about "Cost-Saving Techniques." To me, cost-saving details suggest simplicity. Simplicity is permitted where the plan and the site planning afford the variety. Perhaps the best way to reduce the cost of details on the exterior is to invest, at least modestly, in landscaping. Our philosophy is that if the house is complete without landscaping, we've got too much house. Color competently scheduled, and a serious study of use of textured materials, combined with a sense of scale, results in a dignity of design that permits the economy of simplicity.

Around the entrance, we would suggest the use of a wider than standard 3' door and the use of wide, simple boards. Besides improving the scale, appearance and sense of graciousness, the extra wide door makes more difficult the purchaser's installation of the aluminum storm door—the almost inevitable first "improvement." We suspect that the people so quick to protect the simple front door with the storm door are the same people who buy top grain cowhide luggage and then immediately protect it with a canvas or plastic cover so that the scratches can never show nor, of course, does the cowhide. Along this line of thought, it is necessary to anticipate the improvements that the purchaser will make. A professional design, sophisticatedly clean to appeal to the architect's taste, frequently results in post-purchase additions of wrought iron, shutters and wagon wheel fences. If the architect's objective is the creation of a permanent community beauty, this problem must be mastered and either the public be educated, or more probably, the design given sufficient "warmth" that the purchaser does not feel compelled to add. We have gone back to show clients simple designs in which we took pride in cantilevered roofs produced with some effort and expense only to find installations of wrought iron columns and grill work. It is not enough to deride a lack of public taste. The purchasers are groping and the guidance should be supplied.

As to the direct subject of how an architect can save builders' money by reducing costs, let us be candid. An architect trained in modular de-

sign disciplined for production can take a poorly conceived, non-professional plan, squeeze out the water and save enough to pay for his services. From the standpoint of cost, a well-engineered builder's production model has already been squeezed and let us not kid ourselves that spectacular savings are going to be easy to demonstrate.

There are three ways of reducing costs: (1) The obvious method of building the same house for less money; (2) Building a better house for the same money; (3) Building a lot more and better house for a little more money. The last two offer the real opportunity for collaborative effort.

Let's talk about basements: Many of us, abhorring the basement typically dark, unused, unattractive as waste space, except for certain site conditions, favor the elimination of this "wasted money." We think that it is just a matter of public education. This simply does not recognize the industry facts of life. In many areas, the public wants basements. It has been said that "In New Jersey you have basements because in New Jersey you have basements." In Rochester, you cannot obtain a local mortgage without a basement. Evidently there is an assumption that people want basements. For one thing, it's cheap space.

If we are to have basements, then let us use them. In removing the mental blocks about basements, and exploiting their advantages, there is opportunity for professional contribution to cost-saving by producing a lot more liveable area for very little more cost, or by providing for future expansion by the purchaser for almost no additional cost.

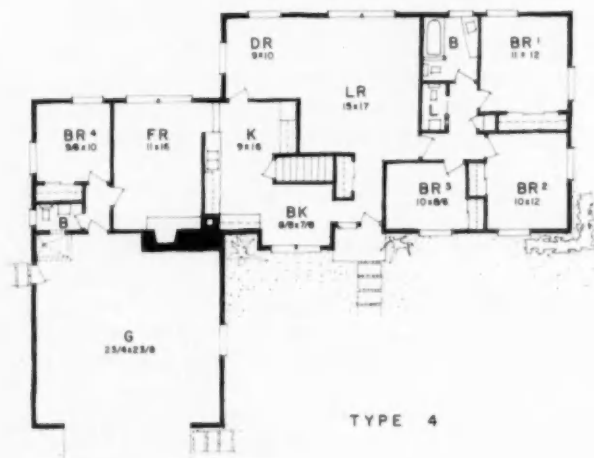
I can recall when architects' homes were distinct from builders' homes in that they were low to the ground and had pleasing proportions. Architects used areaways to achieve these low proportions. Builders didn't use areaways because they cost money. Actually areaways, while meeting FHA requirements, generally gather more leaves than light so we suggest the garden room concept of basement, using one large sunken garden areaway. One large areaway, so treated, is comparable to several small ones and permits light, a sense of space, and a view of flowers from the lower level. If a basement is to be used (see illustration no. 5) for liveable area, the stair system to the basement should be as light and attractive, and as accessible to guests, as a gracious stairway to a second floor, let us say in a center hall Colonial. A stairwell to the basement, closely related to the front entrance, can be achieved by providing a large window above the normal grade level, floodlight the basement with daylight coming down the open stairwell.



TYPE 1



TYPE 2



TYPE 4

THE
"PIVOT CHASSIS"
HOUSE
Illustration No. 3

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TYPE 6



Illustration No. 4

As for cost-saving details on the interior, if we have a plain entrance and a studied use of color, the details can be simplified and economies effected. We have observed that in general materials should be grouped together for effective massing and simplicity—a legitimate economy. Windows grouped together, combined with unbroken wall surfaces, are both more effective and economical than a series of small windows punched through several walls. A small pinhole lamp set in the dining room ceiling will give more effective and dramatic lighting—more suitable lighting for dining purposes—than the use of a fancy fixture that is relatively expensive and generally selected because of its own appearance rather than its suitability of purpose. Such simplicity of fixtures again suggests that the interest come from the shape—the result of good planning.

It is our sincere belief that while the builder is seeking the most saleable, and the architect is seeking the ideal of liveability and design, these need not conflict nor require prohibitive compromise. It is fundamental to recognize that they represent simultaneous, but generally unrelated objectives. The collaborative team of architect and builder must create to satisfy a double standard. Their product must sell in order for the collaboration to exist and the builder to survive. That the product be planned to be the most liveable and designed to be an integral part of an attractive community is their mutual obligation and represents the great need of the country.

There is an interesting observation about the double standard. The factors that motivate an immediate sale are not necessarily related to elements of good planning such as circulation, acous-

tical privacy, supervision of the children, etc., but after several months of occupancy, these elements of good planning become appreciated and constitute the source of "word of mouth" advertising that clients' long-range sustained sales demand. It is not altogether altruistic to design to the double standard. It is good long-range merchandising.

The necessity of compromise between saleability and quality is reduced directly by the extent of thorough collaboration between the builder and architect; their mutual understanding of the prob-

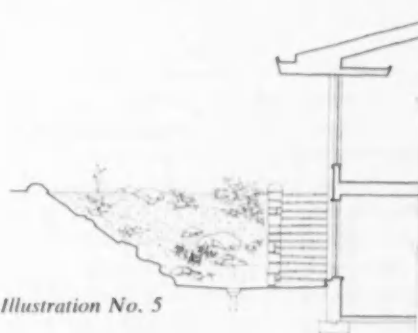


Illustration No. 5

"Sunken Garden" method of lighting basement

lem; their willingness to design and create to a double standard of requirements. The better home, and more saleable home, will then indicate these economies: Reduction of cost, or increase in value, or both; economies of use of money related to more efficient production and rapidity of sales; direct reduction of costs of sales promotion and advertising resulting from the legitimate publicity of a better product and "word of mouth" advertising. ◀

A



INTEGRATED NO GARAGE DOORS VISIBLE

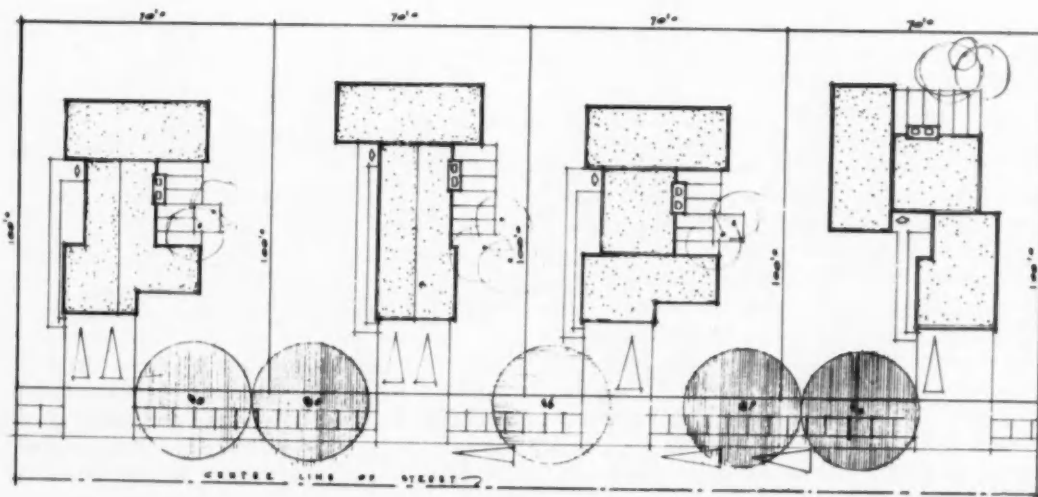
It is becoming increasingly evident that we are not using land to the best advantage—and that land is becoming increasingly scarce. Many suggestions have been put forth to show how we may obtain a fuller use of the limited number of square feet in each plot. Mr Emmons, of the Los Angeles firm of A. Quincy Jones-Frederick E. Emmons & Associates, is well-known for his designs for both individual homes and development homes.

► For the purposes of this article, it is proposed to ignore the regional and community aspects of land-planning in the development of builders' tracts. We will assume that the areas allotted to non-residential and community use as well as the patterns of automobile and pedestrian circulation have been established, and confine our attention to the layout of lot patterns and the design of useful outdoor areas within the lots themselves.

The normal practice in the past, repeated in thousands of suburbs across the country, is to divide the land area into uniform, more or less rectangular parcels of the smallest size and maximum number consistent with local zoning requirements and the proposed selling price of the houses. Topography, of course, is sometimes a factor, but in most cases the raw land purchased by the developer-builder is chosen largely for its lack of complicating features.

The arguments in favor of continuing to use this method have been reinforced by the steadily rising costs of suitable raw land and the continually higher requirements for improvements such

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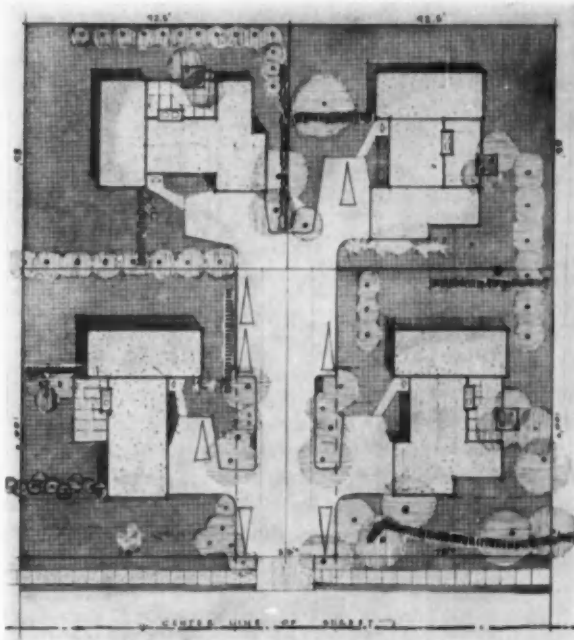


B



The Relation of Outdoor Areas to the Tract House

BY FREDERICK E. EMMONS, AIA



as storm drains, sewers, roads, street lighting, and sidewalks placed on the builder's shoulders by the local authorities. The average merchant builder, therefore, while perhaps deploring the results, often attempts to defend the practice on the grounds of economic necessity. However, if we recognize the fact that the cost of the finished lot is such a high percentage of the price of the sales "package," it becomes increasingly necessary to justify the higher cost to the owner by so relating the tract house to its adjoining land that the maximum possible living qualities are attained.

Let us take a look at this "normal" lot. The usual zoning ordinances provide for setbacks at front, rear and sides which, on the small lot, re-

duce the buildable area by nearly fifty per cent, leaving a front yard which is useful for little but separation from the street, and side yards which are intended chiefly to provide light and air. Within the confines of this prescribed zone, thousands upon thousands of inward-oriented houses have been built, all too often surrounded by areas of weedy grass and spotty shrubs. In more recent years but two concessions have been made to the possibilities of better land use—the rear terrace or porch, and the street-adjacent carport or garage.

If we consider the ultimate boundaries of the lot as the limits of the owner's living area (which, of course, it is), and if the lot could then be surrounded by a visual enclosure, it would be pos-

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ALL GARAGE DOORS VISIBLE STANDARD



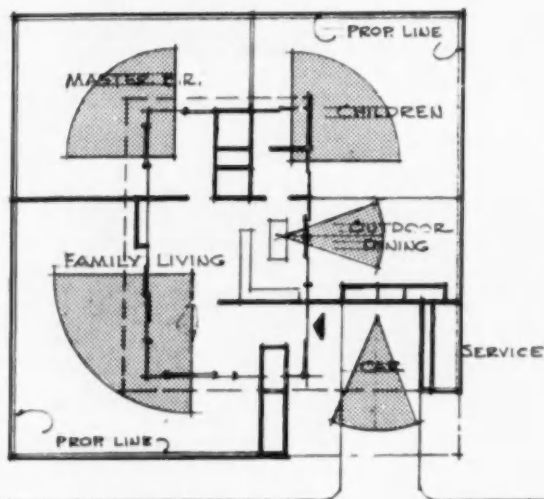


Figure 1

sible to use the entire area as an extension of the interior elements of the house. (Figure 1)

The aim of the designer should be to expand the areas of use within the house to the useful or at least, the unrestricted limits of the property. Further, these outdoor areas, to fulfill their proper functions, should be separated from areas of other uses as well as from the adjoining properties.

There is no reason why all the living areas of the house cannot extend to their counterparts in the site plan and this applies to areas where climatic conditions are not always considered suitable for outdoor living. Almost any climate can be, and in many countries has been, alleviated and controlled through proper design and without the aid of modern mechanical techniques, by the use of shade, planting, water, screens and other devices.

To return to the rear porch of the average house: After years of placing houses squarely centered on their lots (and usually with the living room picture window opening to a busy street), the generally accepted practice evolved to that of opening the main living areas to a rear yard—a relatively large open area which served as the sole private land-use of the occupants.

Here the yard became a general area for all sorts of use—children's play, outdoor entertaining, laundry, etc.—a place which the owner soon discovers to be too large for proper landscaping and maintenance, not only for his pocketbook but for the hours he can afford to spend on spare-time gardening; a place which children and pets make unsuitable for any attempt at esthetic development or the more gracious forms of outdoor entertaining.

By a simple fundamental design change, the separation of the outdoor space into two areas, each intimate enough for logical development, the problem can be greatly reduced. One area, which may take the form of a patio, court or atrium, can be provided as an extension of the living-dining rooms. This area can be landscaped and embellished by a variety of methods using paving and planting patterns, trees, pools, walls, etc., to form a pleasant environment on hot days or summer evenings for outdoor dining and adult entertainment; while a second area, separated visually and insulated for sound by a wing of the house, becomes a play yard where all the miscellaneous objects of games and hobbies may be strewn about with impunity.

This approach can and should be carried further to permit the establishment of specialized outdoor areas as logical extensions of the functions of the other rooms, such as bedrooms, baths, kitchens and automobile storage—places for sunbathing or exercise, places for work, places created for visual enjoyment alone.

We know, of course, that even with the use of considerable ingenuity the average tract lot allows a somewhat limited variety to the solutions suggested since outdoor areas in neighborhoods of high density are relatively useless unless visually screened. Under the usual code restrictions for example, the use of the front yard for anything but parking a car off the street is all but eliminated.

In an effort to improve, among other things, the opportunities for outdoor expansion on the tract lot without decreasing the number of lots available, experiments have been made with the "integrated lot" in which interior lots are formed by opening four or more lots off a common driveway approach.

The tract map shown on pages 116 and 117 and Figure 2 shows a parcel of land, originally laid out in 70 ft. x 100 ft. lots, which was divided into an equal number of parcels under the "integrated lot" method. Here the outdoor areas around the house become useful in at least three, and in many cases four directions rather than two, while the square shape of the lots themselves permits a more open and imaginative house design.

There are a number of further advantages which, while not directly connected with outdoor living, add to the desirability of the houses in the tract:

1 No garage doors (or carports) face directly to the street. This is an important element in the appearance of a street where a generous percent-

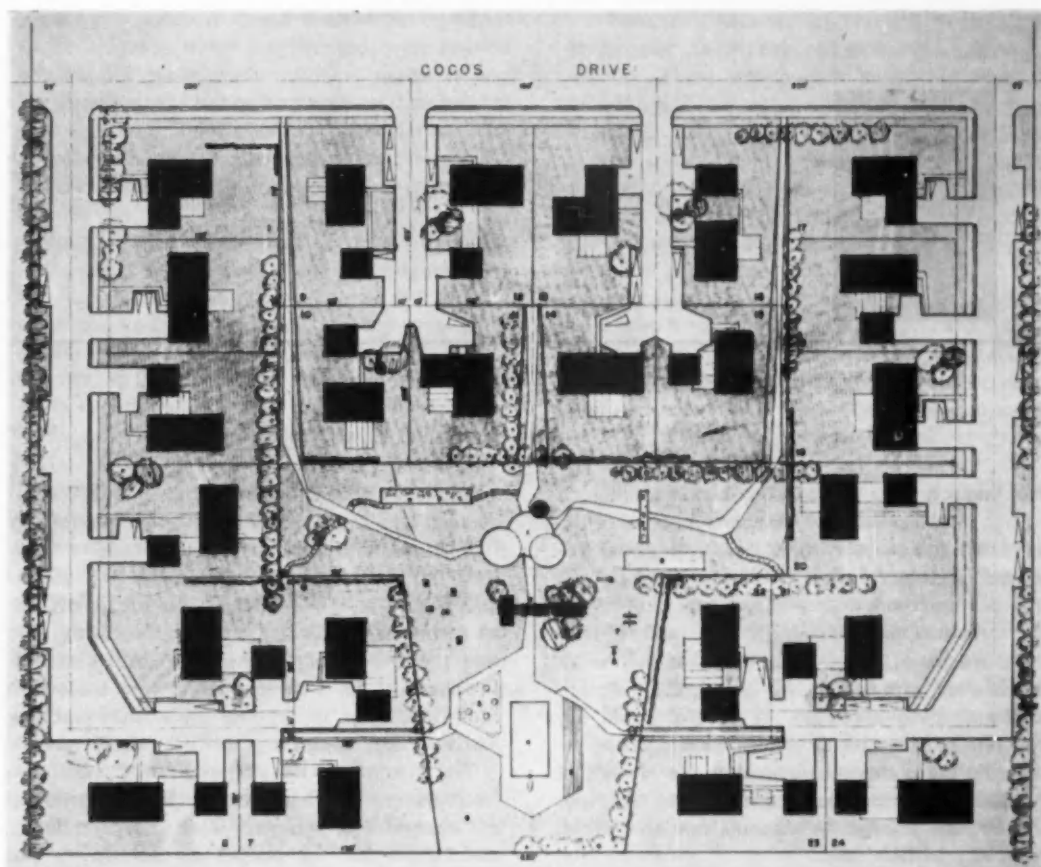


Figure 2

age of owners can always be counted upon to leave cluttered garage interiors exposed to the passers-by. In addition, the danger of backing a car into traffic is eliminated.

2 Comparative figures will show that less public road, and more driveway is required per lot, and since the cost of driveway paving is far less, the scheme is economical in this respect. In addition, guest parking is provided on the private cul-de-sac driveways and the streets could therefore logically be of narrower width at an additional saving.

3 The combined driveways become, in effect, a paved court suitable for children's play, free from the danger of passing traffic.

4 From the standpoint of appearance, the houses have a wider effect of separation than if placed in the conventional row-type lot.

5 At least half the houses are well removed from the noises of street traffic.

From this sort of approach, it is a logical extension to a "pocket-neighborhood" in which the principle of the private cul-de-sac is extended to provide a sort of housing increment of fairly small size, complete with its own communal play area. Areas such as this can be provided even within a relatively small group of houses by proportionately decreasing the size of each lot without increasing the number of lots or the housing density. Such a neighborhood can be repeated in various combinations and patterns throughout a large tract—one which would include the more formal and extensive community activities such as tennis courts, playgrounds, swimming pools, nurseries, schools, etc.

The foregoing remarks indicate only one approach to the problem of obtaining the maximum value from an increasingly expensive asset—the land. There are, of course, others. The indispensable ingredient in any truly satisfactory solution, however, is the capable and sensitive designer. ◀



From the Executive Director's Desk

► Upon returning to the Octagon after his maiden voyage on the surprisingly uncharted waters of the scholastic and chapter world, our Professional Relations Assistant, who concerns himself with students and component affairs reported to my consternation and amazement that students read these articles of mine. I was told that they await the *Journal* with avidity for practically no other reason than to speculate on what I would say next (a startling bit of information). After recovering my composure and after the blushes of embarrassment had paled away, I set about to address this number to students and to alumni, especially to the latter.

It seems the missing link in architectural evolution is the alumnus. Although the photograph at the top of the page may depict something that remotely resembles *Homo sapiens*, that uncouth creature so frequently conjured up as the link between ape and man would more aptly depict my derelict self.

I have gotten far away from schools and teaching yet twice I attempted that hazardous role, both in the now dim past. Neither venture was successful. I do not recall even a hint of a wild scramble by the administrators of either educational institution to pick up my option at the end of the venture.

The first was at the University of Pennsylvania. For reasons which I have long since forgotten (if I ever knew them) the then Dean, Dr. Laird, took me to lunch and offered me a sort of sub-instructorship to teach elements of architecture.

So for a brief term I found myself officially trying to teach drawing and India ink washing to a group of over-burdened freshmen. Actually it turned out that my role was to explain to them that they should not be intimidated by the in-

troduction to their chosen profession. I recommended stiff upper lips and determination. Why I of all people should have been chosen to teach India ink washing still eludes me for of all the media that I have ever attempted in my long life as an architect, painter and teacher of drawing, that was the only one which I could not master. For those of you who may recall your trials with India ink, I can report that my washes probably had the most disturbing abstract streaks.

The memory of the boring hours I spent as a freshman grinding India ink is still vivid. I viewed my charges with sympathy and understanding. I understand that the pursuit of that dreary and dirty craft is no longer part of an architectural school's curriculum. Just why anybody should have been taught to grind India ink as a prerequisite to engaging in one of the most fascinating of professions is an unanswered question. Even as a student I found the task unrewarding and ridiculous. Why India ink should be singled out, I do not know, when we could have been given such other enlightening chores as working in a graphite mine over a weekend to learn how to make lead pencils, for example, or working in a pulp mill to learn how hot- and cold-pressed Whatman comes into being. Pursuing this dingy line leads me to speculate as to why the faculty did not send us out to a clay bank to extract our own earthen pigments so we would really know how to make any of the less lurid colors. In my day, the path to architectural knowledge was devious, delightfully so in retrospect.

The other teaching venture—the elements of architecture—was more fun, but this time in a downtown night school. Save for one lone lady secretary, my students were office boys, all of whom having paid their own hard-earned money

for the privilege of learning some of the mysteries of the offices in which they worked, were an avid lot. No disciplinary measures were necessary and the attention which they bestowed on their teacher was touching. Since then, my association with schools and students has been rather tenuous. So tenuous, in fact, as to disappear entirely for long periods.

Four years ago we started the Student Forums at the Octagon, a project which was originated by the Staff of the AIA. It has turned out to be a successful undertaking. It has been my privilege to appear on the program and talk to the students. I have found these occasions exciting and inspiring. The future of the profession is good, judging by the intelligence, avidity and seriousness of our participants.

Sometimes our purpose and objectives are misunderstood. We do not attempt architectural education, that being the responsibility of the schools. We do not seek to overly entertain. All that we strive for is to acquaint the boys and girls with the organization of the profession which they are about to enter, The American Institute of Architects, its Headquarters, its Staff, its Committees and above all its essentiality and accomplishments. A Student Forum is a party given by the Institute to the delegates. We do not want to initiate another organization. Our objectives are recognizable and non-ulterior. The activity is doubly rewarding, for the Staff too is stimulated and encouraged. We try to give the participants some indication of what architecture is really like and for that purpose every year we have on the program three or four of the foremost practitioners in addition to the members of the Staff and Committee. We explain the intricacies of the organization and its essentiality for the preservation of the profession.

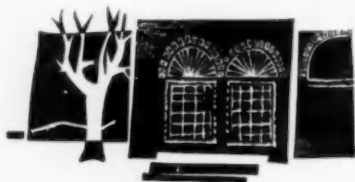
It would be well to organize a forum of delegates from the alumni associations in order that they might be inculcated with the essentiality of concerning themselves with the schools. The complaint of the alumni today is unceasing. The contribution of alumni to the eradication of the cause of complaint is less audible. It seems the lack of interest of alumni in their schools is on the increase rather than on the wane. I was aware when I was a student of a certain definite interest on the part of the alumni in our welfare. Such an interest is now all but lacking. Perhaps alumni should not be abjured too persistently lest an undirected, overindulgence would complicate the life of the dean and his faculty. There is a definite role for the alumni to play and such a role can be found in

the Institute's Architect-in-Training program; the bridging of the gap between school graduation and practice. There is so much to be learned about the profession that is not found in books or as given from the lecture platform in the school. There are questions of human relationships, of salesmanship—the last a vastly misunderstood and underrated word despite the fact that the acquisition of this ability will stand any architect, however competent, in good stead. I have often wondered what perverse whim caused its originator to spring that fallacious better mouse trap theory on a gullible public. If you have a better mouse trap, I think you had best let the world know about it; otherwise, the fellow with the not-quite-so-good mouse trap will sell more of his product and put you out of business.

There are also matters of getting along with your subordinates. Parenthetically the day is gone forever when good accomplishment can be brought about by orders issued by a tyrannical boss. An idea has to be sold to those who are to bring it to reality. This was very strikingly brought to my attention the other day when, in a conference with the publisher of one of America's most famous weekly magazines, he touched upon this matter of selling subordinates. We had presented him with an idea which we thought had merit; a project for his magazine to undertake and which may appear in the course of time, for he was greatly interested and could see the possibilities of the proposition. However, he said "I am the boss around here and theoretically they do what I tell them to do, but actually I do not command and direct and shout orders, I sell the idea to those on the staff who will undertake it, for without their enthusiasm and cooperation, the project is doomed to failure."

You will find that this is true of any architectural office. The wise boss does not command or direct but rather he instills an enthusiasm and a fervor to produce to the best of ability. When the students eventually become bosses, those who are successful will have followed this principle. It is true of everything in this world, it is true of your own organization, The American Institute of Architects. We undertake many projects and activities; the successful carrying out of which is fundamentally dependent upon the enthusiasm of those entrusted with the job—be they members of the staff or of a committee.

Edmund D. Peters



SITES AND SITE PLANNING

Several recent requests for material on site planning suggest that it might be useful to publish a list of the references noted. The books and pamphlets listed are available to corporate members of the Institute on loan on the regular terms of borrowing—fifty cents for the first volume and twenty-five cents for each additional.

KLABER, EUGENE HENRY

Housing design. New York, Reinhold Publishing Corp., 1954.

Part II, Site Planning p. 128-240. Includes following topics: Site Selection; Orientation; Topography; Coverage and Density; Site Planning Methods; Community Facilities; Parking and Garages; Planting and Paths; Residential Character.

KENNEDY, ROBERT WOODS

The house and the art of its design. New York, Reinhold Publishing Corp., 1953.

Chap. X, Site: "How the site of the house should affect its plan and concept."

US FEDERAL PUBLIC HOUSING AGENCY

Public housing designs, a review of experience in low-rent housing. Wash., Govt. Print. Off., 1946.

Includes chapters on Site Selection; The Site Plan; Site Engineering; Lawns and Planting.

KOSTKA, V. JOSEPH

Planning residential subdivisions. The author, Univ. of Manitoba, Winnipeg, Canada, 1954.

KOSTKA, V. JOSEPH

Neighborhood planning. Sponsored by the Appraisal Institute of Canada [Winnipeg, 1957].

ARONIN, JEFFREY ELLIS

Climate and architecture. New York, Reinhold Publishing Corp., 1953.

Has considerable material on

orientation and an extensive bibliography.

A.C.T.I.O.N.

Urban renewal bibliography. [A program of research in urban renewal for the American Council to Improve Our Neighborhoods] N. Y. 1955?

Contains some references on topic "Housing design and site planning." Other headings may be of use such as "Land subdivision" "Orientation of buildings."

AMERICAN PUBLIC HEALTH ASSOCIATION. Committee on the Hygiene of Housing.

Planning the neighborhood. Chicago, Public Administration Service, 1948.

PARKER, HARRY AND

J. W. MACGUIRE

Simplified site engineering for architects and builders. N. Y., Wiley, 1954.

Little actual site planning, but mainly on grading, etc.

Periodical References:

How to make both house and site part of the same design; T. Ladd and associates, arch. il. *House & Home* 16:91-8 July '59.

Land use—fourth factor of architecture. I. D. Shapiro. *Progressive Architecture* 40:11+June '59.

Land planning considerations in a building program. J. E. Glavin. *AIA Journal* 30:56-8 Dec. '58.

Plan your lots for more enjoyment of the land. il. *House & Home* 14:142-3 Sept. '58.

Interpenetration of house by site in Pasadena; C. Maston, arch. il. *Progressive Architecture* 39:110-13 May '58.

Patio town house; a better way to use too-expensive land. il. *House & Home* 12:129-140A Oct. '57.

Experts show you better ways to use land. il. *House & Home* 9:186-7 Mar. '56.

Character of the site is the beginning of architecture. il. *House Beautiful* 97:248-9+Nov. '55.

Land problems. il. *House & Home* 8:112-17 Aug.; 170-3 Sept. '55.

Houses on difficult sites. il. *Architectural Record* 116:170-9 Oct. '54.

Housing development tailored to a rough site. il. *Architectural Record* 114:202-8 Sept. '53.

Toward lower costs in public housing; site selection, design practices, and planning guides. J. Nazar, *Landscape Architect* 41:121-2 Apr. '51; Reply with rejoinder. B. C. Horneman. il. 42:21-4 Oct. '51.

Motels and resorts — new field for the landscape architect; importance of location, site selection, site development. C. A. Gunn. bibliog. il. *Landscape Architect* 45:5-11 Oct. '54.

Big debate over schools neglects important site. S. M. Mertz. *Landscape Architect* 48:226-7 July '58.

Check list for site planning. J. Simonds. il. *Architectural Record* 123:214-17 May '58.

School in the park; suburbs north of Kansas City, school and park plans. il. *Architectural Forum* 107:132-3+Nov. '57.

Lessons in campus building; campus plan for state of New York office buildings. il. *Architectural Forum* 106:136-41 Apr. '57.

Problems of school sites. F. G. Lopez. il. *Architectural Record* 121:189-218 Jan. '57.

School site planning. C. Feiss. il. *Architectural Forum* 99:172-3 Oct. '53.



BOOK REVIEWS

Psychiatric Architecture. Charles E. Goshen, M.D., editor. 156 pp. illus. 9" x 11½". Washington, DC: 1959: American Psychiatric Association* \$12.50

An intriguing title marks a less than intriguing, but useful book. If you seek pictures this is not the text, but if you want ideas, buy it and study it.

What best constitutes an architectural book? Photographs, functional theory, program standards, construction costs, social science or poetry? In a planning guide probably theory, program and examples are desirable. This modest book contains papers by twenty-six authors including fourteen doctors and six architects. Even with good editing there is lack of coherence, yet many cogent ideas are expressed and some are developed into useful theory.

In a most telling section (pages 2 and 3), Dr Goshen lists seventeen deficiencies in existing mental hospitals, which alone constitute an excellent program for improvements. Equally good is the description of the traditional atmosphere as "an insensitive, hygienic, well-regulated hopelessness" with patients treated like prisoners, though fewer than five per cent are dangerous. Thus the physical problem is stated in social terms.

Dr Humphry Osmund's paper on the "Architect and the Psychiatrist" is worth the price of the book. Hear this from his plea for a change in approach (page 8), "The mental hospital is a special case of custodianship. The more absolute the power that one person exerts over another, the more likely is abuse and the more necessary are safeguards." And later (page 9) "The enduring, indeed inescapable risk in all custodial relationships is degradation. The custodee and the primary custodian are always likely to become involved in a degraded relationship."

And this from Dr Goshen (page 4), "The fact is that only about five per cent of mental patients are

sufficiently destructive—and these only a part of the time—to require special measures of protection, and the best way of curbing destructiveness is not necessarily through the use of coercion, security or other forms of restraint." Instead of building a prison—"It makes more sense to see the problem as one of creating space in which personnel and patients can engage in . . . the same things which are done ordinarily in anybody's home or place of work." These statements are fundamental but we fear they will not be read because they are in small type reached only through other, less dramatic sections also in small type. If only books could be like magazines using bold faced type for the best parts and red type for what is absolutely priceless, we could leap to the point and forego all the essential (and rewarding) labor of reading the buildup. This would be like climbing a mountain by landing on its top from a helicopter, and about as gratifying. Better read the small type, because it's doubtful this book will be condensed in *The Reader's Digest*.

A reviewer always finds one mistake, and in Vincent Kling's stimulating paper on "Space a Fundamental Concept in Design" this sentence appears, "Line spaces involve paradox and change: Straight-line sequences are usually dead." This sound idea is well developed, but we think the word "paradox" should be "parallax."

Part I called "Communication" is actually on principles and goals. Part II "The Recent Past" describes three institutions pictorially (176 beds, 96 beds, 450 beds) and adds a psychogeriatric planning check-list. Part III "Current Concepts" covers the general hospital psychiatric unit and the day hospital. Dr Goshen's article on the latter is superior. Part IV "Children's Units" gives theory and examples. Part V "Activity Areas" deals with recreational, occupational and physical therapy; Part VI "Setting the Stage" illustrates the excellent equipment ideas of Colin McLean, and deals with

maintenance; and Part VII describes at length over forty foreign mental hospitals.

Throughout this text "atmosphere" is stressed, implying environmental psychotherapy. Architects will sympathize with this, but it is hard to find in the examples shown much evidence of the planning principles so well stated in the text. This suggests that opportunities remain for original design contributions in this field.

Part VIII "Glossaries" presents some strange symptoms of communicationitis. Following acknowledgments, and a planning checklist are two glossaries, the first defining mental hospital terms for architects and the second defining building terms for mental hospital administrators.

We support the desire for mutual understanding, and if glossaries are needed for that, let there be glossaries, but we think that we can better use common English than to exchange esoteric definitions hoping the other fellow will learn ours and thus understand us. Many of those given seem unnecessary and the few valid ones belong in the text. The architectural section seems especially inane. What mental hospital administrator needs to know the meaning of "alligatoring, altorelievo, annular vault, anta, apron, arnott valve, ashlar, assize or axonometric projection," to deal with letter "A" only? There must be 1800 definitions on thirty-two pages!

This seems like irresponsible space filling. Far better to have used the space for the one or two omissions of substance, first a qualitative one, namely an indication of operating personnel and their functions in the major departments, and second, numerous program omissions such as the desirable number and grouping of beds, the kind and number of supporting rooms, floor area requirements, and something on costs.

Yet in spite of multiple authorship and loose ends, there is much of value in this book, well worth digging out and using.

E. TODD WHEELER, FAIA

* 1700 18th Street, N.W., Washington 6, D. C.

The Guggenheim Museum

My talkative friend Cox, of Cox and Box, Architects, didn't quite finish his conversation with his partner last month—he was just leading up to his comments on the Guggenheim Museum when the stage manager rang the curtain down on him. Cox is out of town again, so I'm going to speak for him.

It was a bright and sunny October day, so Cox thought he'd walk up Fifth Avenue in order to approach the Museum on foot and get a better view of it. He expected to see a gap in the solid line of building fronts as he drew near, but none appeared until he was within a couple of blocks. The building so completely fills its shallow block-front that, relatively low as it is, there is no space around nor even above it. Its great sweeping drums are exceedingly bold and dramatic, and Cox felt that it is a pity one has to view them from only across the street. Standing there taking in its great boldness, and its smooth, molded-appearing, adobe-like surfaces, he also felt that somehow the master of organic architecture, the one who more than any other never failed to integrate his building with its setting, had slipped somewhere. Among the now archaic fripperies of the typical town house and uptown apartment house, this swirling mass was not just a contrast—which might be desirable—but distinctly out of place.

Crossing Fifth Avenue, Cox entered the enclosure of the space, passed under the bridge and then back to the sidewalk. It was pleasant to be invited in off the street, and the planting was luxuriant and beautifully done. No skimping there. But he felt a sense of disappointment as he looked closely at the cement-finished concrete surfaces. There were hair cracks and weather stains and other blemishes appearing. The building seemed to be not just mellowing, but deteriorating, already. His thoughts turned back over the marble perfection of the typical American art museum—the architecture may often have been dull, but there was usually a fine quality of material and finish which one usually expects in a major public building.

He entered one of the wide expanse of glass doors, and noticed

that however generous the entrance, the passage was funnelled down to a single lane past the ticket-seller. He paid his fifty cents and passed under the low-ceilinged area into the rotunda. So this was it!

His first impression was that it was bigger than he expected—that is, *bigger appearing*. It was a fine space, a thrilling space, spiralling slowly up to the dazzlingly brilliant skylight. His second thought was that from the ground floor he couldn't see anything—nothing but a view through the glass into the shrubbery and the spiralling parapet above, with an occasional visitor showing from the waist up. His third impression was of a certain tawny monotony, a lack of dramatic relief—no shadows anywhere.

The ramp looked deceptively easy. He started up but found he noticed the climb more than he thought he would, so he turned back to the elevator, which he found with ease. But there was only one and it was small, so he had to wait while it made two or three trips before he could get in. Arriving at the top landing, Cox stepped directly out to the parapet and looked across and up and down. Ah, here it was, this was the moment he had expected! The great interior was spotted with color and lively with people. It made him think of that Breughel painting of the skaters on a pond seen from a hilltop. It was busy, it was gay, it was thrilling. He then strolled around and up the ramp, to the point where it was barricaded since there were no exhibits above. Then he turned and looked back at the side he had come from. Another shock. For here, instead of the sweeping spirals and brilliantly lighted paintings, he found himself looking into a confused jumble of masses that ran tower-like through from floor to floor. There was the elevator shaft, separately articulated; another apparent shaft, which actually contained a women's toilet at each level; and a series of other breaks and jogs. There was contrast in their shadows, but it was not pleasing and he felt that the whole jumble should never be seen at all. There was even a cast iron pipe—a roof drain, no doubt—elbowing down from the under side of the roof and into the wall, in

plain sight. Walking back toward the elevator, he found all sorts of odd-shaped and useless spaces half hidden from the main rotunda. "My goodness," said Cox to himself, "I came here prepared to like this building. I don't mean to be tearing it apart. I must make a fresh start."

He found it a pleasure to stroll through the unwinding gallery with its continually unfolding panorama of paintings. They were well lighted and he thought the technique of projecting them from the wall was effective. He puzzled over the sloping concrete curb which kept viewers four or five feet away from the wall, and again he found his architect's conscience irritated by the apparent fact that the lighting fixtures weren't integrated into the building at all. They were simply white metal boxes planted against the uneven under-side of the concrete slab, their bottoms tilted to throw the light against the walls. It would appear that the lighting originally intended, coming through the sloping skylights over the picture-wall, was inadequate and these fixtures were added. Furthermore, he was annoyed by the rough concrete surfaces everywhere, merely painted, the hair cracks, the steel cover plates over outlets or pull-boxes exposed everywhere on the low ceiling. Damn it, the building just looked cheap. And he thought again of the rotunda of the National Gallery in Washington, which he had seen just a couple of days before, with its great black-and-white marble columns silhouetted against the white marble walls, its musical fountain and its tessellated floor. Had Mr. Wright felt that fine materials and good workmanship were the exclusive property of classic architecture? Certainly not, for he had seen some exquisitely executed FLW buildings. It was a puzzlement and it bothered him, for he was truly thrilled with the concept of the building—yet when he looked at it closely he felt let down.

"I guess," he sighed, as he let himself be herded out the back door, "architects are just too critical."



STUDENTS



James M. Hunter, FAIA (by mantel) and Herbert H. Swinburne, AIA (center), surrounded by students at the Tuesday night "bull session."

SUMMARY—FIFTH ANNUAL STUDENT FORUM

Monday, November 23rd

8:30 AM REGISTRATION

10:00 AM OPENING REMARKS

James M. Hunter, FAIA, Forum Chairman and Chairman of the AIA Committee on the Profession, welcomed the delegates and explained that the interest of the Institute in the students of architecture is not paternal, but professional. He went further to explain that by definition, an architect has an obligation to society in that this society has granted him the privilege of practicing architecture. The AIA is concerned with maintaining that obligation. Because of the efforts made in this direction, architecture is today in the number one prestige position in the United States. Mr Hunter then introduced other members of the Octagon staff.

Charles Jones, Jr., President of the Association of Student Chapters, AIA, outlined the reasons for the students being at the Forum:

- 1 To find out what the students feel the AIA can do in the future, and to transmit information from the student groups represented.
- 2 To learn more about the AIA and to carry information back to their student groups.

Edmund R. Purves, FAIA, Executive Director, outlined the original concept of the Forum, and its beginnings five years ago. In agreement with the remarks made by Mr Hunter, he emphasized that since the architect is in such a position at the front, that position is thereby that much more vulnerable.

Mr Purves pointed out also that architecture is quite closely allied to many other professions

and businesses. To keep this association working smoothly, there is a staff of seventy at the Octagon and a yearly budget of over a million dollars.

He mentioned further that the AIA is not a static organization, that it must continually change its policy and philosophy when appropriate. He invited the students to watch the activities of the Institute with an open mind and to realize that some day a new generation must assume control and responsibility.

Walter A. Taylor, FAIA, Director of Education and Research, explained his position on the Octagon staff as being between the practitioners and the teachers. He outlined education as a lifelong process. Research must come first, as it is the raw material for education. He listed the various methods that the AIA employs to keep its members informed as to new developments in both building technology and the profession. A special emphasis was placed upon the Architect-in-Training Program, sponsored by the AIA.

J. Winfield Rankin, Administrative Secretary, spoke on his association with the AIA in particular from the legal aspect. He mentioned the importance of the works of the Committee on Professional Liability Insurance.

Wolf Von Eckardt, Director for Public Information, explained that a good part of the over-all budget of the AIA goes for public relations in one form or another. He outlined that the program of public information emphasizes the following:

- 1 What the architect does and his responsibilities.
- 2 His worth to the community.
- 3 The American people's responsibility for the man-made mess they live in.

Mr Von Eckardt emphasized that public relations is not a substitute for public service.

Joseph Watterson, AIA, Editor of the *Journal*, outlined the history of the *Journal*. He stated that editorially the magazine embraces a broad policy, and is a publication to be read, and not to be looked at. He closed by urging that as many

students as possible contribute to the student section of the *Journal*.

NOON LUNCHEON IN THE OCTAGON

The delegates congregated in the Octagon, munching on sandwiches, apples, and other tidbits provided, while downing soft drinks and milk.

2:30 PM ELLIOT NOYES, AIA, ASID

Mr Noyes complained of the lack of communication between architects and the allied professions and trades. He emphasized to the students that many architects have made outstanding contributions to the field of industrial design.

He outlined a method of design employed in his office that he considered successful. This involves a careful consideration of the next larger element over the element to be designed.

Mr Noyes explained architecture as a "mat" for many of the products of these allied fields.

There followed a slide presentation of the work of Elliot Noyes and Associates.

4:00 PM VICTOR LUNDY, AIA

Mr Lundy mentioned the existing confusion, especially among students, over what is good design. He outlined experiences in his life that had greatly influenced his later activities as an architect.

Mr Lundy stated that the individual artist is the most precious. He also said that architecture is a thing of fact, and that so often a building that looks fine on paper is quite ugly when erected.

Another feeling expressed was that architecture does not often turn out well as a team effort. That the creation of a work of art is a lonely thing.

5:00 PM - 7:00 PM

Informal get-together with staff and speakers. Victor Lundy was—as usual—the sensation of the evening. Delegates grouped around the Sarasota architect asking endless questions which Lundy answered until his taxi arrived to take him to the airport.

Tuesday, November 24th

9:00 AM FILM "Designing a Better Tomorrow"

This film was prepared by the Institute for showing to highschool students depicting the career of an architect. The group was very well impressed with it.

9:30 AM

Paul Hunter, AIA, Chairman of the Chapter Affairs Committee, gave a short talk outlining various reasons for the existence of the AIA. He

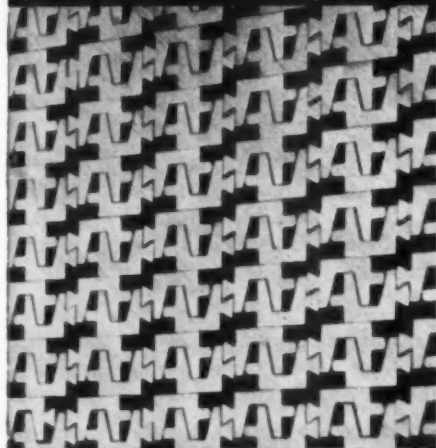
(Continued on page 128)

The group in the Board Room listening to a speaker.



Now
AMARLITE

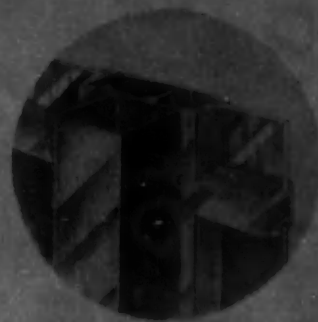
Beauty
Comes To
Curtain
Walls



PRECISE EXTRUSIONS, FINISHED TO JEWELERS' STANDARDS, CHARACTERIZE HV TRIMLINE AND TRIMLINE WALL. EVEN SMALLEST PARTS GET EXTRA CARE AT AMARLITE.



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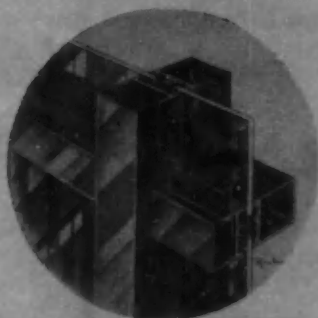
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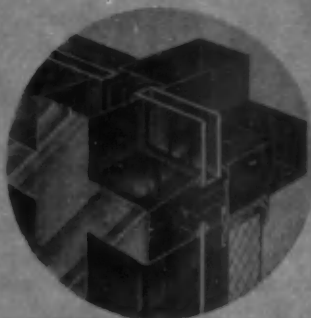


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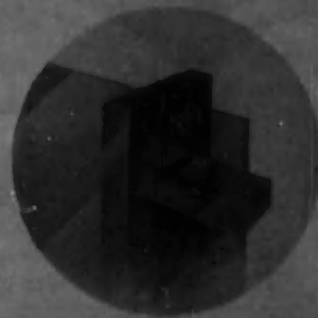
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explained that there are certain things that cannot be accomplished by the individual architect.

Mr Hunter defined architecture as an activity of enlightened people, for all people.

10:00 AM

Byron Bloomfield, AIA, Executive Director of the Modular Building Standards Association, explained the activities of his organization, and pointed out the many reasons for use of modular building standards.

10:15 AM

John L. Haynes, Managing Director, Producers' Council, Inc, outlined the purpose behind the organization he represents. He mentioned chapters in forty-three cities and the various activities carried on by them. Attention was called to the technical bulletin published by the Producers' Council and its contents of a listing of approximately 900 catalogues.



Photo at top: John L. Haynes, Managing Director of the Producers' Council, giving his address. Chairman Hunter sits at the right. Photo at bottom: Ron Wilson, AIA, of Boeing, demonstrating one of his models.



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10:30 AM

Ron E. Wilson, AIA, of the Boeing Airplane Company, gave a talk entitled "Moon Structures." Although, as he explained, much of the information on the subject is classified, Mr Wilson was able to give a good idea of the background and requirements for structures for use on the moon. He said it was a challenge to students of architecture to face the problem of designing these structures. His talk, which was illustrated with slides, proved fascinating to his listeners.

12:00 NOON

All student delegates were the guest of the members of the Chapter Affairs Committee. The delegates grouped themselves at tables on a regional basis.

2:30 PM

Waldron Faulkner, FAIA, gave an interesting talk on the subject of color. Rather than relating this subject to a particular field it was discussed from a scientific viewpoint. Mr Faulkner spoke of the specification and measurement of color. He stressed the need for a clear method of standardization in this field.

4:00 PM

Herbert H. Swinburne, AIA, spoke of the three phases of architecture as it pertains to cities, i.e, people, spaces and the aspirations of the people who occupy the spaces. The architect is the creator of total environment. Mr Swinburne's talk was accompanied by a dramatic slide presentation shown on two seven-foot-square projection screens.

5:00 PM

In summing up the events of the formal sessions of the Forum to this point, Chairman Hunter said, "AIA is a sincere and dedicated organization—a vehicle to create a climate within which to practice."

8:00 PM

After an opportunity to stretch and dine, the delegates returned to the Octagon for an informal get-together with the guest speakers of the day.

Wednesday, November 25th

On Wednesday morning a student session was conducted by President Chuck Jones. Sandy Jeffries spoke on the subject of an international meeting of architectural students (Student Page, November, 1959 *Journal*). Also discussed were matters affecting the activities of architectural students throughout the country.

2:00 PM

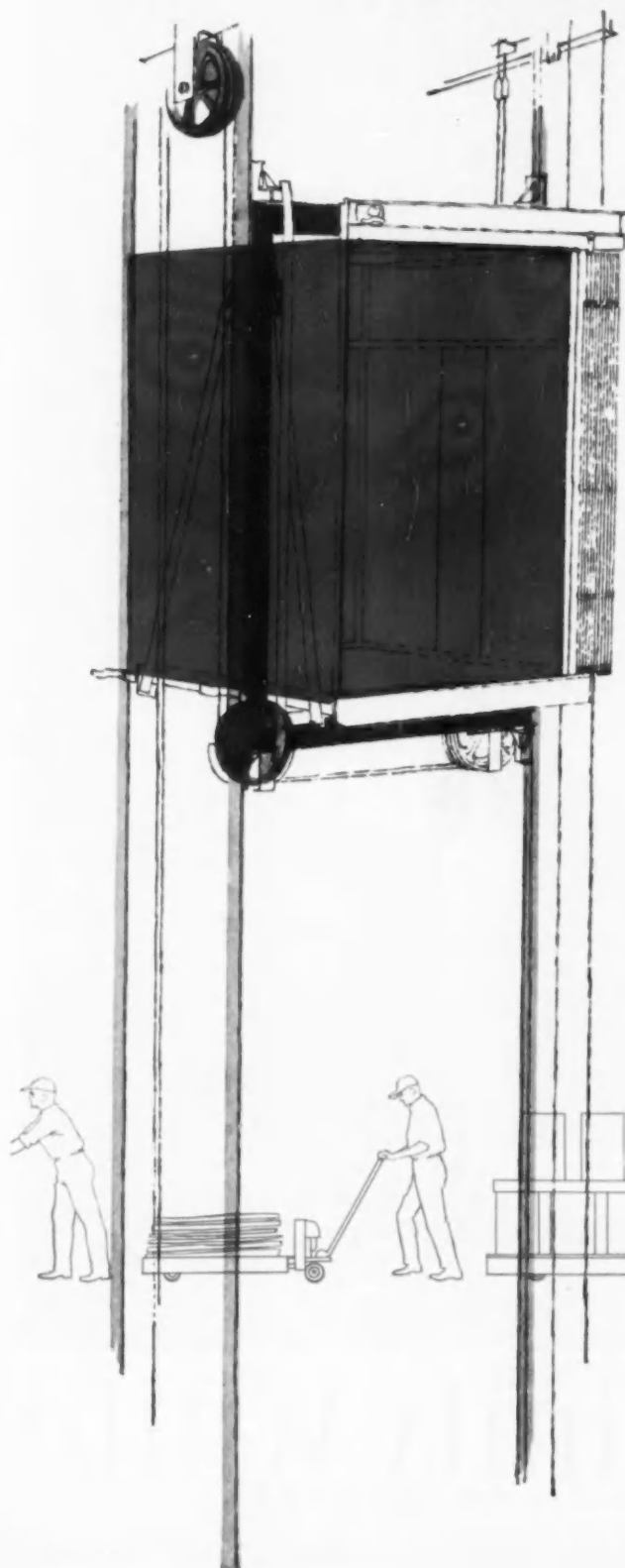
Some of the delegates remaining took advantage of a bus tour of Washington and nearby northern Virginia. Messers Harry Ormston and Stanley McGaughan, both members of the Washington Metropolitan Chapter, arranged the tour and acted as hosts.

5:00 PM

The Fifth Annual Student Forum concluded.

ROY L. NOLEN III
Secretary

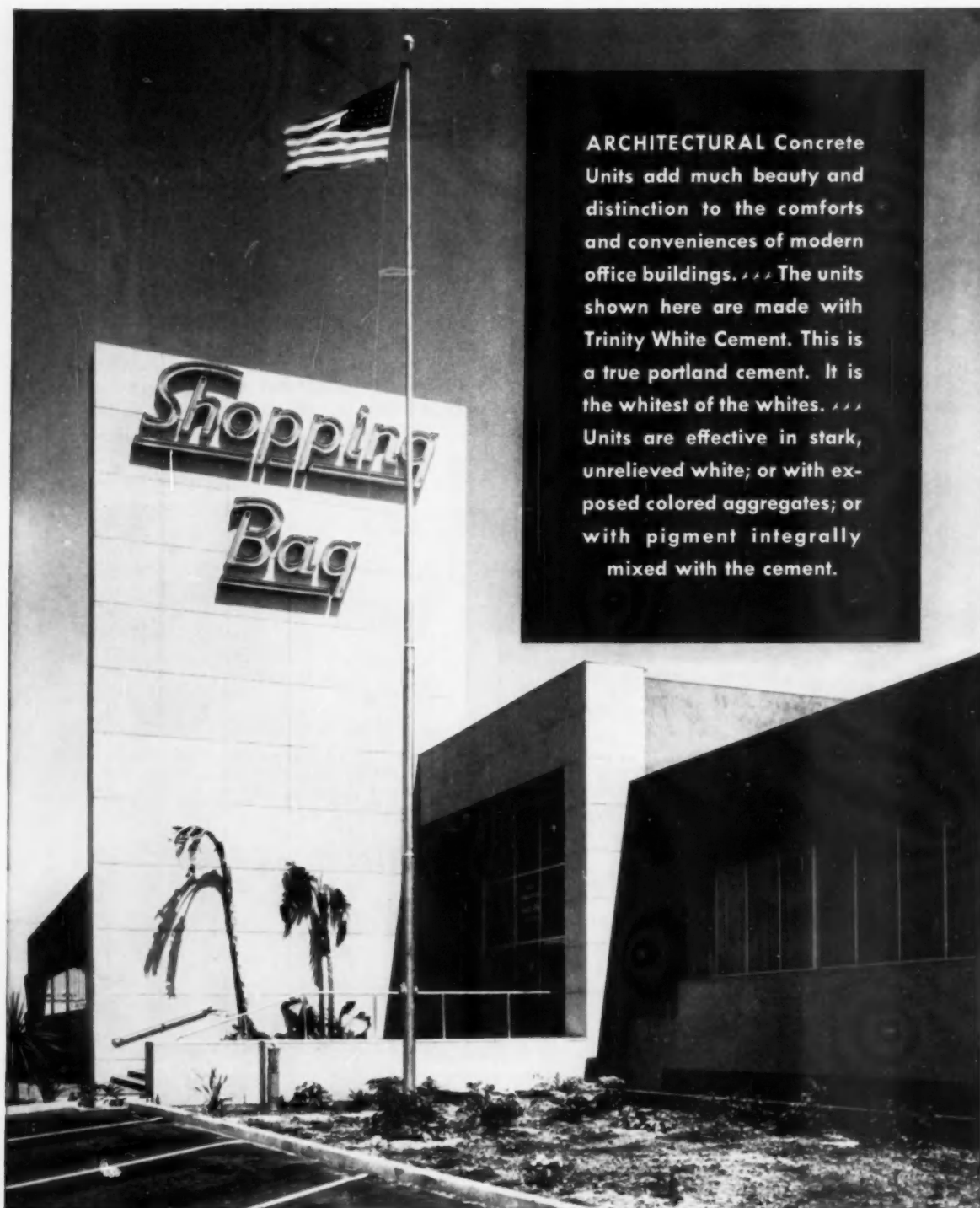
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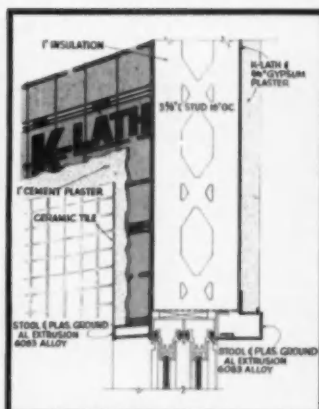
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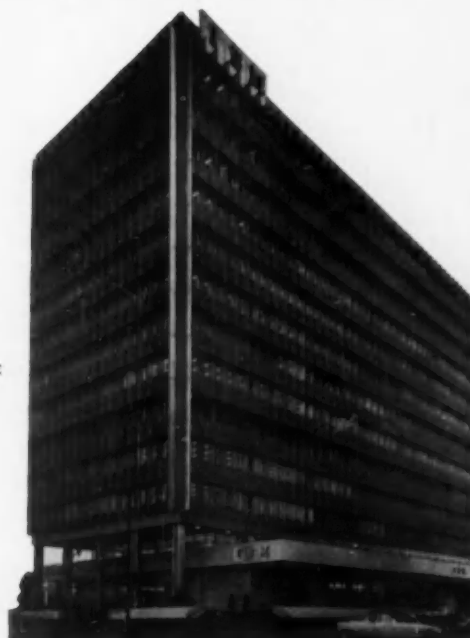
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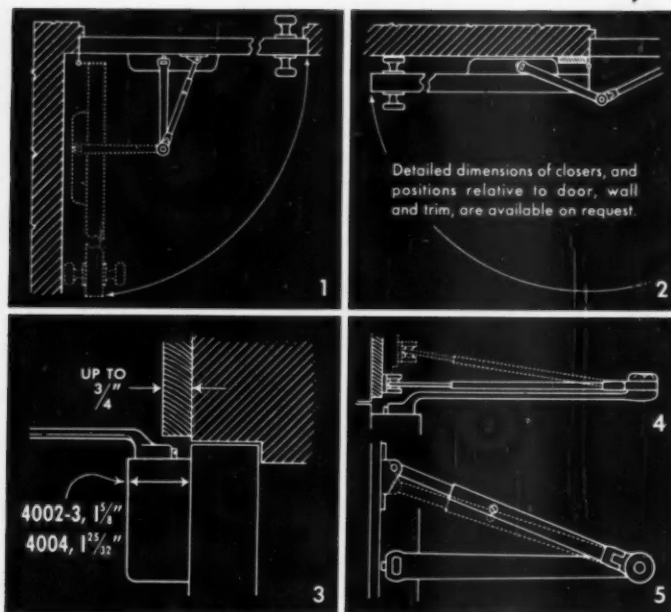
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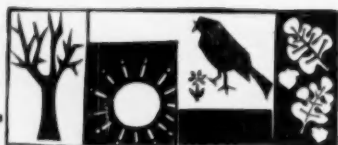
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Construction Details on Opposite Page

Perkins & Will
Architects-Engineers



C A L E N D A R

January 12: AIA-PC Joint Committee, Engineers Club, New York, N.Y.

January 12-15: Sixteenth Annual Technical Conference of the Society of Plastics Engineers, Inc., Conrad Hilton Hotel, Chicago, Ill.

January 25-29: Meeting of Board of Directors, The Octagon, Washington, D.C.

January 28-30: Forty-sixth Annual Meeting of the North Carolina Chapter, Sir Walter Hotel, Raleigh, N.C.

March 14-17: Fifty-sixth Annual Convention of the American Concrete Institute, Commodore Hotel, New York City.

April 5-7: BRI Spring Conferences, Statler-Hilton Hotel, New York, N. Y.

April 11-12: Inter-Society Color Council, 29th Annual Meeting, Philadelphia, Pa.

April 18-22: AIA Annual Convention, San Francisco, California.

April 23-30: Twenty-seventh Annual Historic Garden Week, Garden Club of Virginia. (For information write The Garden Club of Virginia, Room 3, Mezzanine, Jefferson Hotel, Richmond 19, Virginia.)

May 11-16: World Design Conference, Sankei Kaikan, International Hall, Tokyo, Japan. (For full information write Wo-De-Co—Tokyo, Room 301, International House of Japan, 2 Tarihizaka-Machi, Tokyo, Japan.

May 12-14: South Atlantic Regional Conference, Winston-Salem, North Carolina.

May 28-June 3: Twenty-fifth World Planning and Housing Conference, San Juan, Puerto Rico.

June 15-18: British Architects' Conference, Manchester, England. (For information write G. R. Ricketts, Secretary, Royal Institutes of British Architects, 66 Portland Place, London W. 1, England.

NECROLOGY

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According to notices received at the Octagon between October 27, 1959 and November 24, 1959

AYERS, SANFORD M., Atlanta, Ga.

BROWN, ALFRED E., Detroit, Mich.

DAVIS, GEORGE H., JR., Van Nuys, Calif.

DJORUP, ERHARD, New York, N. Y.

HIGGINSON, CLARENCE H., New York, N. Y.

HOWELLS, JOHN MEAD, FAIA, Kittery Point, Me.

MARKLEY, ROBERT R., Durham, N. C.

MCLELLAN, DOUGLAS H., Los Angeles, Calif.

MEISSNER, A. F., Jamaica, N. Y.

NOLEN, BRYAN W., Oklahoma City, Okla.

SCHMIDT, RICHARD E., FAIA, Chicago, Ill.

VEDDER, JAMES R., Syracuse, N. Y.



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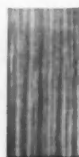
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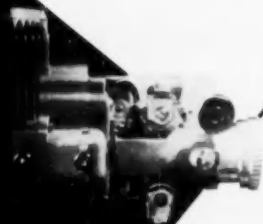
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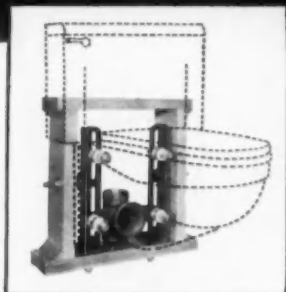


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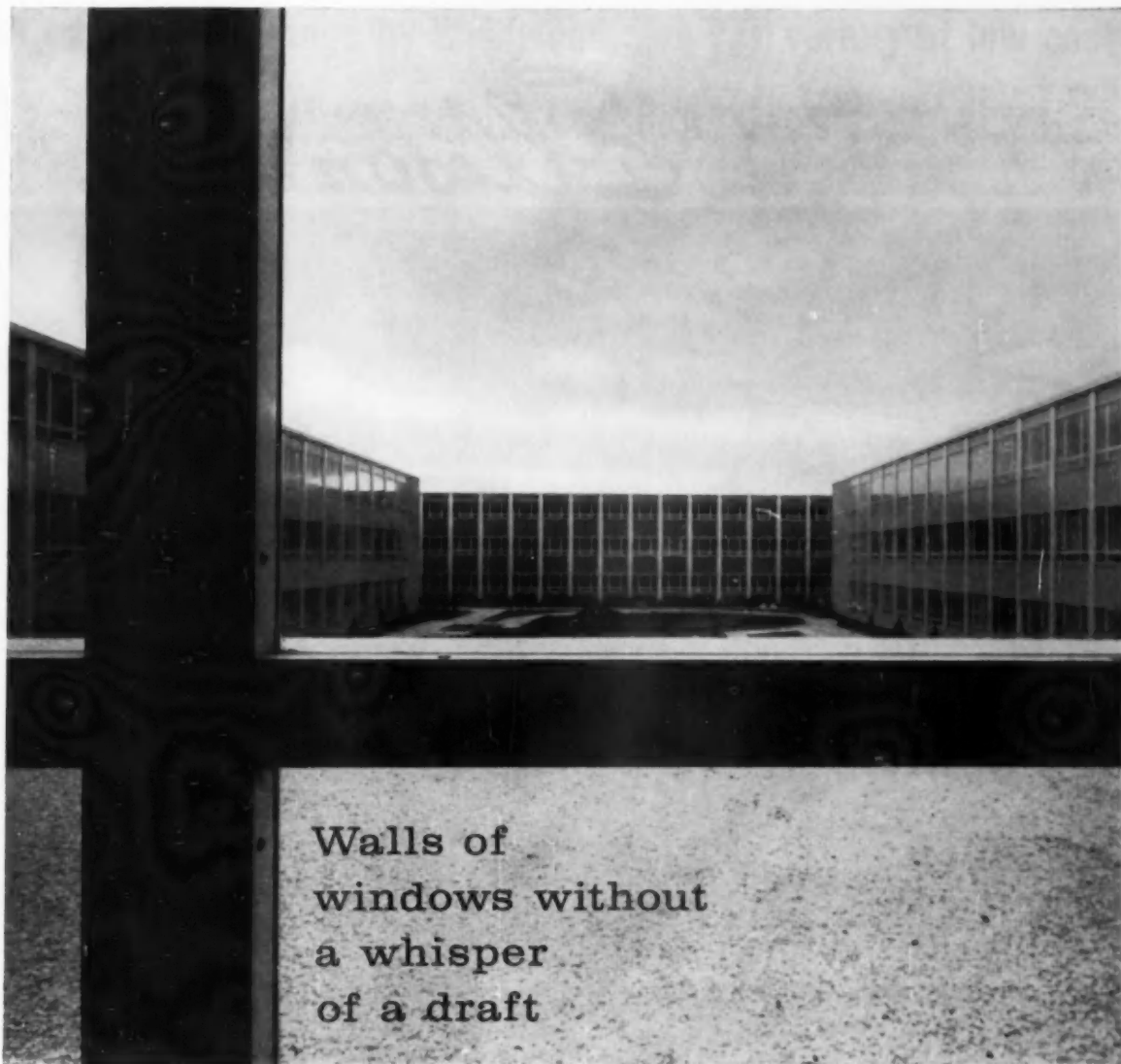


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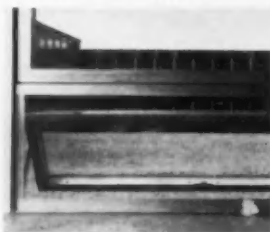
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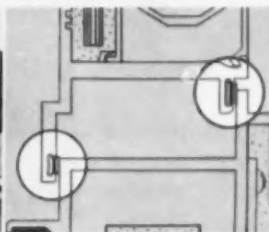
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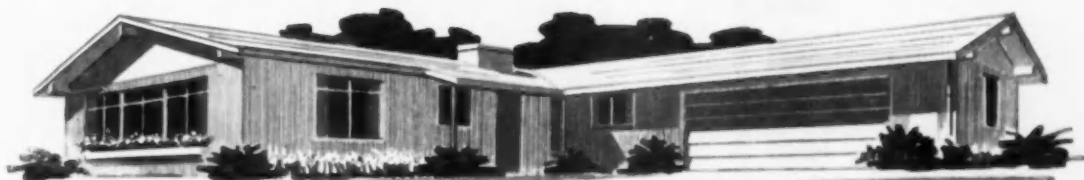
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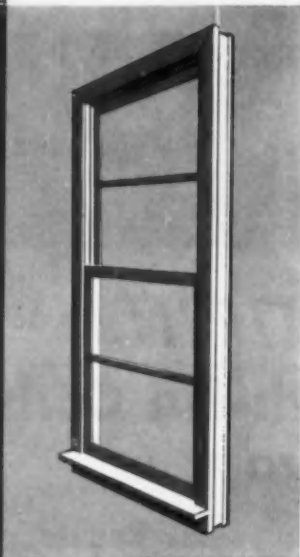
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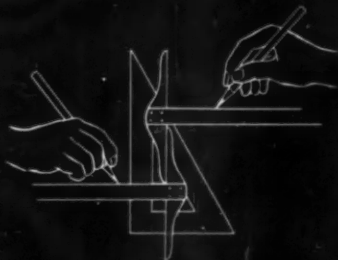
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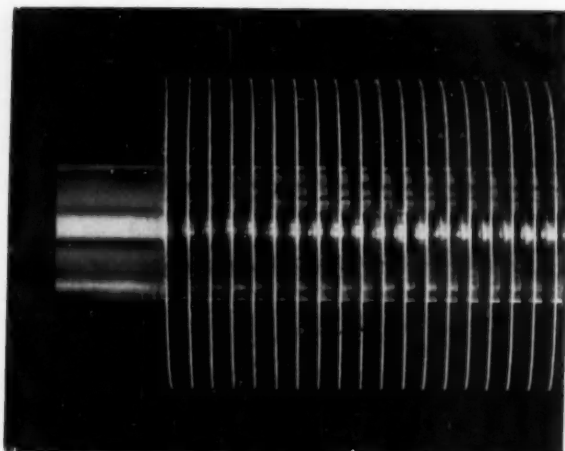
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Reader's Digest 35¢

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ALLIED ARTS

EDITED BY WOLF VON ECKARDT

The Octagon Gallery

► Changes have taken place in the Octagon Gallery during the past summer. Through a Board appropriation it was possible to re-design the installations and remodel the two large rooms on the second floor of the Octagon now used for exhibitions on architectural subjects. Since the Octagon is an historical monument, the essential quality of the building has real significance. In the original plan of the house the present galleries were divided into bedrooms and dressing rooms used at one time by President and Mrs James Madison. The intervening partitions have long since been removed but the fireplaces and the three fine long windows on each side of the house remained. The exhibitions have had to fit in between the many openings, moldings and doorknobs and compete for interest with these architectural features of the interior. This conflict between the existing architecture and the actual exhibition framework needed to be resolved and brought into a more harmonious unity. Nicholas Satterlee, AIA, Chairman of the Octagon Gallery Committee, has planned a streamlined use of the space by eliminating certain non-essential doors, niches and a fireplace and introducing new free-standing display boards. These movable boards are suspended between slender metal poles which reach from floor to ceiling and create an exhibition space which is in the nature of a room within a room. The original contour and character of the galleries is unchanged but the background for exhibition material is now clean, uncluttered and flexible.

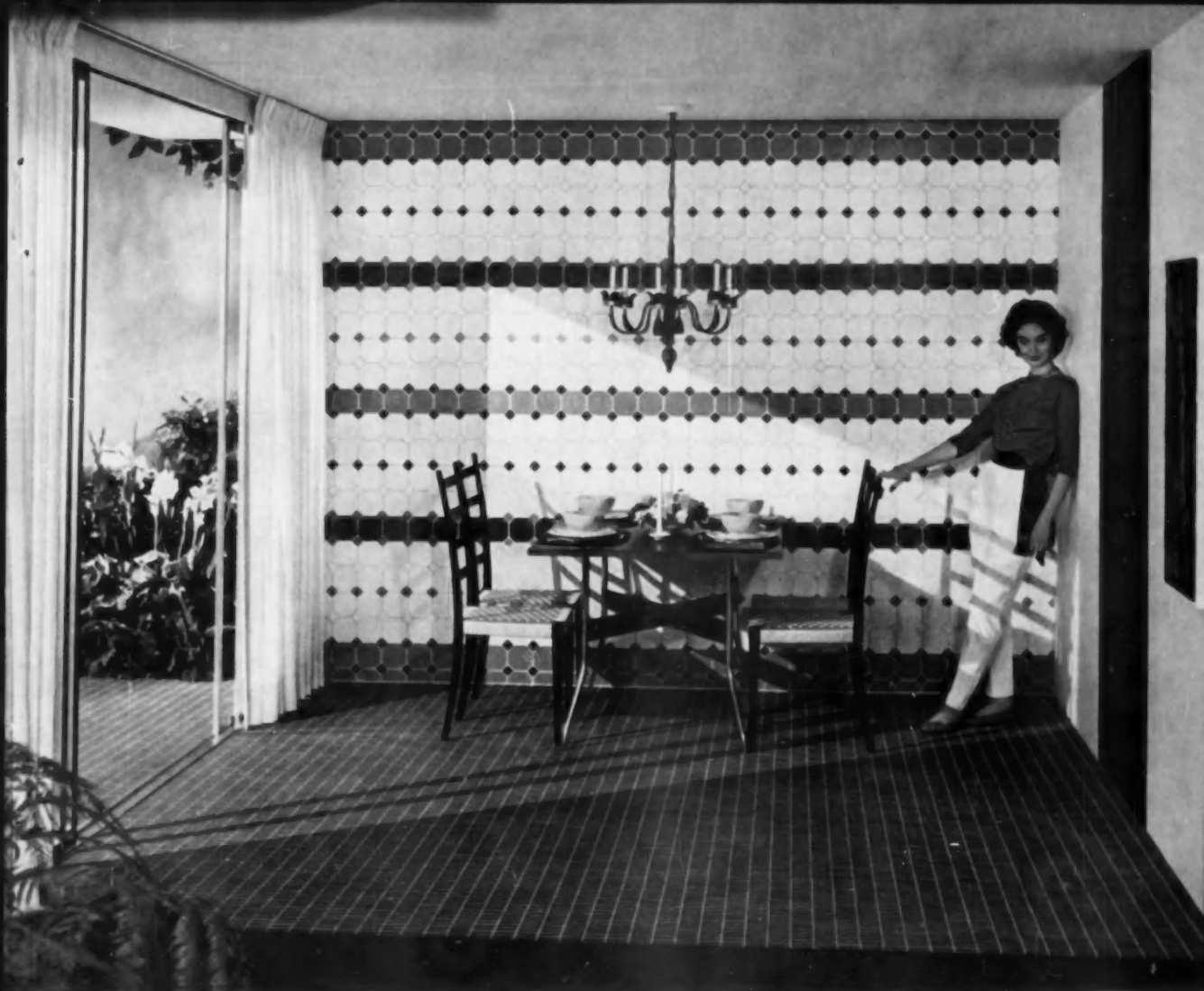
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The new installation gives a more suitable and a more contemporary atmosphere to the Octagon's expanding program of important architectural events. Since 1953 some fifty exhibitions have been shown at the Octagon. Certain shows have become an annual feature as for instance the Honor Awards and the work of newly elected Fellows shown soon after each convention. Almost every year, too, a selected group of new school buildings has been on view and there have been similar exhibitions of contemporary hospital designs. Being

conveniently near to the government departments the gallery has been able to work out joint exhibition plans with the Office of Foreign Buildings, Department of State, Public Health Service, Public Buildings Service and others. It has also been possible to draw on the resources of the Library of Congress, National Park Service, the Smithsonian Institution and National Trust for Historic Preservation. Through its cooperative ventures and the many official guests who attend the exhibition openings the Octagon is in touch with most of those concerned with architecture in Washington. Traveling exhibitions of foreign architecture opening at the Octagon have been co-sponsored by the AIA and the embassy of the country of origin. Such exhibitions have been well received as they continued their circuit around the country.

With a limited budget the gallery is not in a position to build many original exhibitions. However, three shows of architectural photography were initiated and produced at the Octagon for national circulation. There is a definite need for small flexible exhibitions of architectural subjects of general interest. The demand for exhibitions of from fifteen to twenty-five panels far exceeds the supply. Many schools and communities write the Octagon for help in their exhibition programs but few can be given more than advice and a referral. Such shows are very much wanted today and would have wide circulation. The public is interested in knowing more about good architecture and there would be quick acceptance of attractive exhibitions for use in schools, museums and libraries. The Octagon Gallery hopes to have the funds to add each year one or more traveling shows which would be of special interest. These might be historical or theme exhibitions or perhaps show the work of one man or a group of architects. Through a far-reaching network of exhibitions of high standards the Octagon could promote clearer visual understanding of architectural trends. The persuasive quality of good graphic material cannot be underrated and the AIA could do much through more well-planned shows to demonstrate the achievements and the goals of the profession.

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